

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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LONDON, SATURDAY, DECEMBER 21, 1872.

[WITH SUPPLEMENT.] [PRICE FIVEPENCE. PER ANNUM, BY POST, £1 4s.]

MR. JAMES CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL
(ESTABLISHED 1842).
HOLDERS of Mining Shares DIFFICULT OF SALE in the open market may find purchasers for same through Mr. CROFTS' agency.
CASTLE AN DINAS and BLOWDA BEACON recommended at present prices.
Every description of shares bought and sold at NET prices.
Daily Price List on application.
Bankers: The City Bank.

MR. W. H. BUMPUS, STOCK AND SHARE DEALER,
44, THREEDNEEDLE STREET, LONDON, E.C., has FOR SALE the following SHARES, free of commission:—
50 Almadra, 18s. 9d.
50 Australian United, 14s.
50 Aberdunant, 10s. 6d.
40 Boscawell Downs, 22s. 6d.
50 Birsebrook, 22s. 6d.
10 Blue Hills, 22s. 6d.
50 Camp Floy, 22s. 6d.
100 Chantrel, fully paid, 22s. 6d.
50 Caegwyn, 10s.
25 Carn Camborne, 17s. 6d.
70 Cwm Elan (fully pd.), 8s. 9d.
3 Dolcoath, 16s.
25 Emma (Silver), 16s. 6d.
W. H. B. transacts business in every description of shares at the best market prices, and free of commission.
Bankers: National Provincial Bank of England, E.C.

MR. YOUNGHUSBAND CHRISTIAN,
STOCK AND SHARE DEALER,
11, ROYAL EXCHANGE, E.C.

MR. W. TREGELLAS, 122, BISHOPSGATE STREET WITHIN, E.C.,
Deals in all descriptions of Stocks and Shares at close market prices.

MR. JOHN MOSS, STOCK AND SHARE DEALER,
ST. MICHAEL'S CHAMBERS, 42, CORNHILL, E.C.
Bankers: City Bank, Finch-lane, E.C.

MR. J. GREGORY, STOCK AND SHARE DEALER,
CROSBY HALL CHAMBERS, BISHOPSGATE STREET, E.C.

MICHAEL WILLIAMS BAWDEN,
GENERAL ASSAYER, LISKEARD.
Analysis of every Mineral Produce carefully conducted.

MESSRS. J. TAYLOR AND CO., 3, UNION COURT, OLD BROAD STREET, LONDON, E.C., and MINING EXCHANGE, SOUTH KING STREET, MANCHESTER, have FOR SALE:—300 Aberdunant, at 12s.; 100 Hobb's Hill, fully paid up, at 10s.

SILK AND CO., STOCK AND SHARE BROKERS,
32, REGENT STREET, PICCADILLY, W.
FRANK LEMMER, Secretary.

H. W. ASHLANT, SHAREDEALER, 17, PINNER'S HALL, OLD BROAD STREET, E.C.
Mining Shares bought and sold at the best market prices.
SPECIAL BUSINESS in the following:—
San Pedro, Great Lacey, East Van.
Roman Gravel, Penrith, Penrith.
Utah, West Tancerville, New Rosewarne.
Rookhope, Penrith.

MESSRS. GREGORY, WHITAKER, AND CO., STOCK AND SHARE DEALERS, AND GENERAL FINANCIERS, 81, BISHOPSGATE STREET, LONDON.
Business transacted in all Marketable Securities at closest prices.

MR. THOMAS THOMPSON, JUN., 1, PALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.
Some valuable hints as to the purchase of mining shares will be found in Mr. Thompson's "Investment Circular" for December, now ready, post free, price 6d.

MR. E. J. BARTLETT, STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C., transacts business at net prices in every description of security.
DENBIGHSHIRE CONSOLIDATED.—A careful perusal of the report in this week's Journal is recommended.
FOR SALE.—1 Miner, at 25s. net. Paying regular dividends.

MR. T. R. COMYN, STOCK AND SHARE DEALER,
3, THREEDNEEDLE STREET, LONDON, E.C.
Bankers: National Provincial Bank of England.

A purchase of the following shares at the present prices cannot fail to realise handsome profits either for investment or for a rise in price. The mines are being vigorously and legitimately developed.
New Dolcoath, Exceisor, Cathedral.
Penrith Consols, West Jewell, South Tolarne.
West Gwennap Consols, The Lovell, South Margaret.
Mr. COMYN can supply any of the above on favourable terms, and recommends immediate application.

MESSRS. WM. MARLBOROUGH AND CO.,
29, BISHOPSGATE STREET WITHIN, LONDON, E.C. (Established 18 years), have FOR SALE the following SHARES at prices annexed:—
50 Aberdunant, 10s. 6d.
50 Almadra, 17s. 6d.
50 All-y-Crib, 22s. 6d.
50 Birsebrook, 22s. 6d.
25 Bampfyde, 22s. 6d.
40 Bog, 32s. 6d.
50 Boscawell Downs, 22s. 6d.
50 Cook's Kitchen, 22s. 6d.
70 Chantrel, 15s.
100 Cwm Elan (fully pd.), 8s. 9d.
2 Carn Brea, 15s. 6d.
2 Castle an Dinas, 10s.
10 Devon Consols, 27s. 6d.
3 Dolcoath, 16s. 6d.
10 East Lovell, 18s. 6d.
10 East Grenville, 30s.
5 Exceisor, 6s. 6d.
5 Emma, 15s. 6d.
10 Eberhardt, 22s. 6d.
30 East Langnyon, 30s.
10 East Van, 22s. 6d.
3 East Basset, 21s. 6d.
50 E. Caradon, 21s. 6d.
25 East Seton, 28s. 6d.
50 Fortescue, 28s.

MR. GEORGE BUDGE, STOCK AND SHARE DEALER,
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 22 years), is a SELLER at net prices of:—
70 Llanarmon, 22s. 6d.; 20 Gawton, 22s. 6d.; 25 West Gwennap, 27s. 6d.; 10 West Pibreen, 23s. 6d.; 35 Crebhor, 10s. 6d.; 10 Marke Valley, 23s. 6d.; 75 Nanglies, 27s. 6d.; 100 Crenver and Wheal Abraham, 12s.; 80 Cathedral, 19s. 3d.; 35 Boscawell Downs, 22s. 6d.; 30 North Roman Gravel, 32s.; 5 North Rosewarne, 22s. 6d.; 50 Prince of Wales, 14s.; 45 Perran Wheal Vyvyan (fully paid), 8s. 4d.; 50 West Jewell, 15s. 6d.; 20 New Rosewarne, 3s. 6d.; 3 Wheal Buller, 21s. 6d.; 5 Wheal Kitty (St. Agnes), 21s. 6d.; 40 Hobb's Hill, 10s. 6d.; 100 Great Lacey, 21s. 6d.; 100 South Tolarne, 50s. 6d.; 10 South Carn Brea, 24s. 6d.; 35 Parys Mountain, 32s.; 50 Exceisor, 7s.; 35 West Esgair Lle, 100s. 6d.; 100 West Caradon, 3s.; 20 West Tancerville, 23s. 6d.; 15 Bog, 33s. 6d.; 20 New Rosewarne, 3s. 6d.; 3 Wheal Buller, 21s. 6d.; 5 Wheal Kitty (St. Agnes), 21s. 6d.; 40 Hobb's Hill, 10s. 6d.; 100 Great Lacey, 21s. 6d.; 100 South Tolarne, 50s. 6d.; 10 South Carn Brea, 24s. 6d.; 35 Parys Mountain, 32s.; 50 Exceisor, 7s.; 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Llyn-y-Pandy Lead Mining Company

(LIMITED).

Incorporated under the Companies Acts, 1862 and 1867, by which the liability of each shareholder is strictly limited to the amount of his subscription.

CAPITAL £50,000, IN 50,000 SHARES OF £1 EACH.

Fully paid-up.
DIRECTORS.

JOHN R. BANNER, Esq., 20, Tithebarn-street, Liverpool (Merchant).
LEWIS BIDEN, Esq., 9, Victoria-chambers, Westminster.
R. W. BILLINGS, Esq., Molinare, Putney (Director of the Crystal Palace Company).
Capt. BROWN, R.A., F.G.S., Portsmouth (Chairman of the Iron United Mining Company).
Capt. F. ELLIS, 32, Maida Hill, W.
HUGH HUMPHREYS, Esq., Hendre Gaerog, Carnarvon.
Major M. PETRIE (97th Regt.), Hanover-terrace, Ladbroke-square, W.
LOUIS A. RITTERBANDT, Esq., 18, St. George's-terrace, South Kensington.

SOLICITORS—Messrs. KIMBER and LEE, 1 and 2, Great Winchester-street-buildings, Old Broad-street, E.C.
BANKERS—THE IMPERIAL BANK (Limited), Lothbury, London, E.C.

AUDITORS—Messrs. CROYSBELL, SAFFERY, and Co., 14, Old Jewry-chambers, E.C.

SECRETARY—JAMES FAIRBAIRN, Esq.

OFFICES,—224 AND 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.

PROSPECTUS.

This association, registered as "The Llyn-y-Pandy Lead Mining Company (Limited)," is organised for acquiring and working an extensive and highly-mineralised property in the parish of Mold, Flintshire, held under agreement for lease for 21 years, and at the exceptionally moderate terms of 1-18th royalty.

It is due to the promoters at the outset to state that, in view of the statement and estimates made by some of the most practical mining engineers and geologists of the day, this enterprise is pronounced to be based on the most direct, important, valuable, and readily available interests which could be possibly offered to the public.

Further, although official details of the various mineral features of this property will be found hereafter given, it will indicate a just appreciation of them, and seen as satisfactory references to note down in *mine* their combined influence, proximate and remote, on the successful issue of the project here put forward. Of this very extensive set it may be recorded that, intersected throughout as it is proved to be by well-defined lodes, situated in one of the most celebrated lead zones or mineral belts of the Principality, accepted by the highest scientific authorities as rich in metalliferous wealth in a more than ordinary degree, while the traditions of the local mines invest it with inexhaustible resources, possessed of unbounded means of economical working through an ample supply of water-power (a consideration of immense value at the present time); ore yielding now at several important points of operation, and its strata formations bearing broad-cast the genial indications which constitute the unmistakable guarantee for rich deposits, exhibits all the mineralogical conditions that suggest and authorise a liberal outlay for an adequate development, which could never be effected by private capital.

The Llyn-y-Pandy set is traversed by a series of lodes, running east and west nearly parallel to each other, which have been more or less proved, but selecting those which have been most worked upon—viz., the Rhyd-y-Mwyn and Pant-y-Mwyn lodes, are to be credited with returns during several years up to the late stoppage of the mine, amounting to 400 tons of lead per month. This yield, it is confidently asserted, may be taken as a fair type of the whole, and when it is stated that for the most part of the royalty paid was an eighth, a rather extravagant impost, while lead ore realised only £3 per ton, it is cheering to calculate that with dues at 1-18th, and the market prices of lead on a very remunerative scale, the prospects of this company are satisfactory in the extreme.

However, such anticipations, well founded as they are, and essentially fraught with the highest importance, are, to an immeasurable extent, enhanced by the fact that between the Llyn-y-Pandy and Pant-y-Mwyn lies a tract of land somewhat about a mile long, which may be designated virgin ground, and, to quote the official report, "known to contain in two, if not three, lodes, which only await development to yield untold wealth."

Such are the several facilities presented by this piece of land that its lodes can be reached and explored by means of an adit level, which is now being driven as fast as possible, and will intersect the first of two courses mentioned at a depth of 100 yards. The profits then, in this first instance, it is considered will be very large. One of the most remarkable evidences of the prolific deposits in this ground is palpably apparent in the level now being continued—a cross-course, which within about 100 yards of the land included in the original Llyn-y-Pandy grant yielded by a merely moderate expenditure a quantity of ore worth between £7000 and £8000, from comparatively short and shallow workings.

The driving here promises to be largely productive, and it is anticipated the intersection of the east and west lodes will be distinguished by results which will mark an era of mining in the Principality.

A system of working on the cross-courses, levels, and lodes is about being acted upon which will effectually drain the whole at one and the same time, and by which a considerable outlay will be avoided. These engineering adaptations will accomplish great facts, as whatever machinery may be required will suffice for the command over the whole of the set that would be otherwise unreach, without much time and labour being expended.

Several thousand of pounds have already been expended in forming watercourses, making roads, and doing what is usually known as dead work, and will be at once available and of great advantage to the company.

Facilities for the transmission of ore from the dressing-floors are thoroughly secured by both road and rail, the mine being in easy proximity to Rhyd-y-Mwyn Station on the Mold and Denbigh Railway.

Perhaps no mine was ever placed on the English market to which less risk is attached than the Llyn-y-Pandy; a review of its proved and prospective capabilities will establish its worth as presenting one of the most profitable commercial undertakings of the day, none affording greater security to capitalists.

From whatever point it is regarded, whether it be its geological and topographical position, its mineral surroundings, representing mines of the highest celebrity, some of which have for a series of years paid hundreds of thousands per annum in profit to the shareholders, or from its vast resources already being favourably and rapidly developed, the opinion reached by these eminent surveyors and old miners who have inspected and have long known in practice and by repute this property is borne out in every particular, and to the investing public is secured a guarantee for which it would be difficult to find a parallel among progressive mines.

Applications for shares must be made in the prescribed form, but no application can be entertained unless the deposit of 5s. per share has been previously paid thereon, and in the event of no allotment being made the deposit paid will be returned without any deduction.

Llyn-y-PANDY LEAD MINE REPORTS.

This mine is situated in the parish of Mold, in the county of Flint, in proximity to Rhyd-y-Mwyn Station on the Mold and Denbigh Railway. Lying at the junction of the enormous limestone and coal measures, it is within an area of the richest portion of that celebrated belt which has produced the Talarogoch, the Trelogan, the Holway, the Milwr, the Herward, the Halkyn, the Pant-y-Gof, the Rhosmor, the Hendre, the Mold, the Maesysafn, the Old Westminster, the Minera, and other mines of historic fame. Adjacent or near to it are the Great Hendre, the North Hendre, the Rhosmor, the Pant-y-Gof, the Pant-y-Mwyn, and the South Mold Mines. The Great Hendre yielded £115,000 in profits in a period of eight years, when the average price of ore was but £10 a ton. The Pant-y-Gof yielded £200,000 a year for sixteen years consecutively, and as much as £100,000 a year for three years, whilst the other mines have been none the less rich. The set is traversed by a series of lodes running parallel to each other in an easterly and westerly direction, two only of which have been wrought—the Rhyd-y-Mwyn and the Llyn-y-Pandy lodes. Each has been found to be exceptionally rich, having yielded together as much as 400 tons of lead ore monthly for several years, and as their wealth is by no means exhausted there is no doubt they could be re-worked at a very great profit now in these times of reduced royalties and enhanced value of the produce. When they were wrought formerly the royalty was as much as an eighth, and the average price of the ore was as low as £3 a ton. In case they be re-worked the royalty should not exceed 1-18th, whilst the value of the ore will range from £12 to £13 a ton, which, allow, with a reduced yield and an enhanced cost, an ample margin for profits. But important as these old lodes undoubtedly are, it is to the new, or to those which are intact, that the writer attaches especial importance.

Between the Llyn-y-Pandy and the Pant-y-Mwyn is a piece of ground nearly 1 mile in extent, which has never been tried, known to contain two if not three lodes, which only await development to yield untold wealth. The conformation of the ground offers exceptional facilities for the development of these lodes by means of an adit level, and an adit level is now in course of driving, which will intersect the first of them at a depth of 100 yards. This lode has been run upon from surface and found to be rich, and there is not the least doubt but that it can be wrought to a very great profit. The level is continued on a very fine cross-course, productive in itself, as much as from £7000 to £8000 worth of ore having been got from it from a run within 100 yards or so from the ground embraced in the Llyn-y-Pandy grant, and although it has been driven but a short distance, and is now comparatively shallow, stones of lead are frequently met with, and there is every probability that the driving will in itself be productive, independently of the ground results anticipated from the intersection of the east and west lodes, or those to be invariably productive in that portion of the district; but even should it not be, £1000 will be ample for getting up the level to the first lode. When these new lodes are opened above the adit, in working them below it, it is supposed to work the old lodes simultaneously. There is every probability that the same water pervades them all, and by adopting this course the cost of drainage for every lode will be restricted to merely what would be incurred in draining the old mines by themselves, and as it would be distributed over a number of lodes each making returns, the cost per ton raised would be comparatively light. Regarded in every light, the property is one of exceptional value, satisfying every condition of success, and not even the severest critic can find points any other than to admire in it, and the writer states with the greatest confidence that there is an absolute certainty of its proving a great and lasting mine. A feature to which too much attention cannot be paid is that there is water-power available to the extent of 200-horse power, or thereabouts, the water-courses having already been constructed at a cost of £1000, and advantage can be taken of this as well as of thousands of pounds expended in other essential works.—*Halkyn, 9th April, 1872.* MATTHEW FRANCIS.

With regard to the Llyn-y-Pandy Mine, near Mold, I know it well, and have been an agent some years, with the Messrs. Taylors, a mine adjoining. I can most confidently recommend this property to any party. There are courses of ore in the old mine worth 10 tons to the fathom, and is through a large extent of ground which has been left unworked, through the want of adequate engine-power. The eastern part of Llyn-y-Pandy is also a very valuable piece of ground, and has never been 1-10th tried; and I feel fully persuaded that, with a small capital judiciously

expended, five courses of ore can be laid open, which will make prompt and most remunerative returns.—*Aberdunant Mine, 20th April, 1872.* HENRY FRANCIS.

We cannot over-estimate the importance of the change which I reported to you on the 19th inst. Two or three days previous to that date the level cost for driving fully £5 per fathom, the cross-course being small, but with no sticking that would impend even of the point of a pick, with scarcely any evidence of the change impending it suddenly opened out, and the cross-course is now full 2 ft. wide, picking ground throughout, with a firm hanging and heading. It has a settled character withal, and altogether as masterly and imposing an appearance as you could wish to see, and I shall be much surprised if I have not shortly something very good to report of it. Our setting-day is on Saturday next, when I shall be enabled to effect a great reduction in the cost of driving. The adit is now in more than 40 yards, and it is gaining cover rapidly. Our prospects are bright, such as to stamp the mine as the most promising in the district.

Sept. 25: I am glad to report we are making fair progress, the cross course having the same favourable appearance as reported in my last communication, being more than 2 ft. wide, all picking ground, yielding lumps of ore occasionally. Altogether it is remarkably promising. There is a sound of water rushing not far ahead, and whether it betokens our proximity to an east and west lode I cannot tell. The level is now in more than 45 yards. MATTHEW FRANCIS.

Extract from the MINING JOURNAL, 19th October, 1872.

LEAD MINING IN NORTH WALES.

Mining in Wales, even amongst people so fond of the antiquity of their nationalities, still seems to be the favourite theme of "Tradition whispering to History." Never, perhaps, were these words more properly applicable than at the present, when the workings of the old men are being ransacked in every direction; these ancient mines have been generally found pioneers of recent so-called great discoveries, when the fact is they should have been deemed only great developments; nor are the works of the old men now the only guides, the spots re-wrought by those whose memories and persevering efforts still live in the localities once so greatly benefited by their endeavours are being again, and now are, the scenes of busy industries. The decline of many of the former rich mining districts must be ascribed to other reasons than the absence of minerals, no doubt the principal causes have been the absence of those determined and indomitable spirits whose efforts neither high dues, low prices, or the vicissitudes of fortune could deter or vanquish; to these succeeded others with less confidence whom the depression in the lead trade appalled, consequently they neglected the pursuits of their forefathers. More energetic parties still wrought on notwithstanding, and theirs have been the rewards. Again, the modern mode of transit was unknown, the now obsolete conveyances were costly and tedious, machinery and appliances were of the most primitive and rudest description, so that it is not to be wondered at that lead mining in Wales should fall into decadence. Under the present improved regime in mining affairs of the Principality—to wit, reduced dues, improved appliances for manipulation as well as raising and transmitting produce—no wonder scientific and persevering efforts have been and are crowned with success, and that capital is being attracted for the purposes (at once legitimate and praiseworthy) of rendering the valuable deposits of mineral again remunerative to the miner and conducive to the national wealth. To quote recent successes would be a work of mere supererogation; to enumerate the past it is only necessary to refer to comparatively recent history, especially in the county of Flint alone, where the profits on certain mines have been counted by hundreds of thousands. We need but mention Talarogoch, Trelogan, Holway, Milwr, Hereward, Halkyn, Pant-y-Gof, Rhosmor, Great Hendre, Mold, Free Fawog, Old Westminster, Minera, Pant-y-Mwyn, South Mold, &c. Besides these, in the same county, are numerous places showing the works of miners, of whom no records save these remains and traditions are left. It would be easy to quote parallel instances in neighbouring counties, as Cardiganshire and Denbighshire, where the Minera, and in Merionethshire, where the Van and other mines are giving substantial and lasting proofs of the immense value of the Welsh mining industries. Under similar conditions works on an extensive spirited scale are about to be carried out in the first named county at Llyn-y-Pandy Mine, which is known to be one of the most highly mineralised pieces of ground even in that favoured locality, being surrounded by the before-mentioned mines, the geological conditions (junction of the limestone and sandstones) are precisely the same as in these celebrated mines. The project we mention embraces the further development of lodes already proved productive by the "old men," as well as by the more modern old men, which were abandoned for the reasons before mentioned, as well as to try new ground by cross-cutting, in which are known lodes to the number of three or four within a few score fathoms. If science and natural indications go for anything, the value of the set cannot be doubted, and it is questionable if any property in Wales ever offered greater *prima facie* evidences of success. The resources of this property are inexhaustible, and cannot be surpassed by the silver-lead deposits of any other district in the United Kingdom.

Registration of New Companies.

The following Joint-Stock Companies have been registered:—

NEW BUXTON LIME COMPANY (Limited).—Capital 100,000£, in 100,000 shares. To carry on the business of lime burners. The subscribers are:—

R. R. Davis, 31, Spring gardens, Buxton, 50; J. Dabry, Sherbrook Lodge, Buxton, 60; R. Davis, 25, Finsbury place, 50; J. Holland, Albert Villas, Seven Sisters' road, N. 50; B. Williams, Omega Villas, Forest Hill, 50; H. W. Retford, Devonshire-terrace, Kennington, 50; and S. S. Giles, 63, South Grove, Brompton, 50.

GUSELEY and YEADON COAL COMPANY (Limited).—Capital 25,000£, in 50,000 shares. To carry on business as ironmasters. The subscribers are:—

S. Sladen, Guseley, 10; S. Dawson, Guseley, 50; J. Robinson, Guseley, 10; J. Denison, Yeaddon, 15; W. Maude, Yeaddon, 10; R. Yeaddon, Yeaddon, 10; and A. Brughshaw, Yeaddon, 10.

CHESTERFIELD and BOTTORPE COLLIERY COMPANY (Limited).

—Capital 60,000£, in 1200 shares of 50£. For the acquisition and development of the Brampton Collieries at Chesterfield. The subscribers are:—J. F. James, Alcechurch, 30; John Smith, Bennett's hill, Birmingham, 50; W. Gent, Birmingham, 25; H. W. Elliott, Colwell-street, Birmingham, 50; W. P. Rayner, Birmingham, 50; T. Short, Birmingham, 50; and Henry Rotton, Birmingham, 50.

SUCCESS, RUSHY CLIFF, and NANCY CONNOLLS LEAD MINING COMPANY (Limited).—Capital 16,000£, in 16,000 shares. For the acquisition of mines in Derbyshire. The subscribers are:—T. O. Robinson, 43, Bridge-street, Derby, 1; H. C. Simpson, Derby, 1; W. B. Heath, Derby, 1; George Baghurst, Derby, 1; J. Biddle, Derby, 1; E. C. Swindon, 28, Duffield-road, Derby, 100; H. Richards, Derby, 1.

WEDGWOOD COAL and IRON COMPANY (Limited).—Capital 200,000£, in 100,000 shares. For the acquisition of mines in the parishes of Woolston and Norton-le-Moors, in the county of Stafford. The subscribers (who take one share each) are:—P. R. Innes, 59, St. George's-square; Charles Black, Maple-road, Annerley; R. Campbell, 103, Jernym-street; Thomas Hunter, 42, Cornhill; R. W. Bily, 24, Lennox-street; J. C. Lade, 5, Wilton-terrace, Dalston; and H. Parker, 84, Linsell-street.

LINDAL-OSLEY IRON ORE COMPANY (Limited).—Capital 25,000£, in 1000 shares. For the acquisition of mineral property in Lancashire and Cumberland. The subscribers are:—J. P. Walton, Greenhead, 50; John Cooper, Acorn, 50; John Henderson, Durham, 20; D. Dale, West Lodge, Darlington, 20; A. Dickenson, Newcastle, 20; John Russell, Newcastle, 20; and E. R. Whitwell, Darlington, 20 shares.

PRINTING and NUMERICAL REGISTERING COMPANY (Limited).—Capital 100,000£, in 100,000 shares. The object of this company is to acquire certain patents for improving the apparatus used for printing and numbering tickets. The subscribers (who take one share each) are:—W. Askeroff, Wolverhampton; E. H. Cartwright, 202, Piccadilly; B. Hoskins, Grosvenor-square, W.C.; G. H. Holden, 78, Cornhill; C. R. Vigers, Herham, near Egham; J. G. Heis, Richmond-villas, Forest-hill; and B. A. Iyer, Sandbrook-road, Stoke Newington.

WHEAL SETON.—Of all the mine meetings ever held in the county of Cornwall, the meeting of the adventurers of Wheal Seton, which took place on Monday, at the mine, was about the worst. It began in opposition, was continued in confusion, and ended in uproar. For some little time past there seems to have been some amount of dissatisfaction existing in the minds of certain shareholders respecting the management of Wheal Seton, and a recent accident in the mine, to which attention has already been directed, has tended to increase this feeling of discontent, the accident being attributable to mismanagement and neglect. On the other hand, it is asserted that the mishap was unavoidable; but, however that may be, it became known about a week since that an attempt would be made at this meeting to oust the purser and agents from their present positions. This attempt was made, and it was attended with a considerable amount of disturbance and unbecoming conduct. The attendance was not large, and it was surprising that so much noise could have been created by numbers so few.—*Western Daily Mercury.*

Original Correspondence.

SUCCESSFUL TRIBUTERS.

SIR,—During my stay at St. Just I observed that in general the miners' cottages were very decent, and substantially built. In passing near Pendeen Church I took notice of a house containing seven or eight rooms, and a garden superior to those around. I asked the man who was with me, "Whose house is that?" He mentioned the owner's name. I then asked, "What is he?" "A miner" was the reply. Then I asked "If he had been abroad to get the money to build it?" "No, he is a tributer, and earned the money in this parish; there are many tributers here who have been enabled by their success in the tribute labour to build houses equally as good as that." Tributaries are co-adventurers with the shareholders, and if they are allowed "fair-play," they sometimes earn little fortunes. A man who lived in Gwennap, and worked in the United Mines in that parish, earned 1300£ in two months; and it lasted him about seven years only.

Another tributer, who worked, I think, in North Roskear Mine, earned 1000£ in about two months. Money quickly gotten is seldom held long by its possessor. This miner immediately commenced, or pursued, a drunkard's life, and the money, of course, melted away "like the fat of lambs." He was so free from care during his and the money's dissipation that he never thought, as he said himself, of the exhaustion of it. A mine agent afterwards said to him, "Now your money is all gone, what would you do if you had another such sum?" "Do exactly the same," says he. Few spendthrifts, I presume, would have said that; as a rule they repent of their folly.

Tributers are, many of them, cunning men, and they take pride in cheating the agents by a "sharp practice," as I may say. The late Capt. J. Thomas, of Redruth, gave me an amusing instance of his father's practice, when he worked at North Crofty, during its management by Capt. Tredinnick. Thomas and partners had a pitch at low tribute, and a day or two before setting-day they cut a very rich bunch of copper ore. The day previously to that one of the agents discovered some improvement in the lode, and informed the manager of it, who said—"It is a poor pitch; I was in it a day or two ago." The manager and agent went down on a visit of inspection, as is usual before the setting-day. The miners prepared for their coming by blackening the ore with candle smoke, and by throwing dirt against it, which the agents did not suspect. Having done this, they retired into a cross-cut, awaiting the manager's arrival, to hear the remarks of the agents. "I told you that it was a poor pitch," said Capt. Tredinnick, and the agents then left, and shortly after the miners also. At the survey the pitch was read out, and Thomas made an offer. "Will you take it at 13s. 4d. in 17?" said Captain Tredinnick. "Put it down," said Thomas. After the survey, Thomas went to the manager, and said—"We shall want the whim on Monday morning to draw up our ore; we shall get 200 tons this month." I think the tributers got on that taking 200£ or 300£ each. I did hear the number of the "pare." I will give another instance of Thomas's cleverness in out-witting the agents. It occurred at Dolcoath. He and his partners were working in the mine as "tutworkmen." In doing so they came on a bunch of copper ore. They immediately buried it under rubbish, and on their ascent to the surface they went to the manager, and got him to let the place on tribute, and he allowed them a certain proportion of any ore they might discover, in addition to their previous price. They very soon showed their discovery. They earned good wages, for out of that place the company had 7000£ worth of ore.

After dining with the agents at a mine near Redruth on a pay-day, I adverted to the above cunning acts, and said to the manager, "What is your judgment on the propriety or impropriety of such acts?" "They did quite right," said he, "miners have a perfect right to cheat the agents if they can." I differ from him; *cunning* is not a quality that can exist in a truly Christian man. I deem such conduct little better than *cheating*, in its common acceptation. Cunning, in a certain sense, may be, and is, warrantable, and that is when a man obtains good, and our neighbour sustains no damage by its exercise. Such was that of David, the psalmist, who probably saved his life by it. See 1 Samuel, chap. 21, v. 10-15.

Truro, Dec. 24.

R. SYMONS.

CAMP FLOYD SILVER MINE.

SIR,—Every shareholder in this company must have been astonished at the statement in last week's Journal as to the stoppage of the mill consequent upon the poor produce of the ores, when the reports from time to time have been so flattering as to the average richness of the ore. It will be in the recollection of the shareholders that Mr. Bowe, one of the directors, visited the mine and reported that the dump pile would realise large produce in silver; now, we have the statement that the ore from this dump pile has fallen in produce to a return which will not pay the cost of extraction. The change to this appears by the fact that all the produce of the drivings has been indiscriminately mixed together in the dump pile, without any selection, and that in the chloride of silver ore there are large quantities of barren limestone rock containing no silver. The dump pile, therefore, affords no criterion of the value of the mine, but is one of the many instances of bad management and careless working for which shareholders have to pay so dearly.

Mr. Bowe took various samples from different parts of the levels, which were assayed in Salt Lake City, and found to average over \$100 per ton. I am at a loss to understand why those points from which Mr. Bowe's samples were taken have not been staked upon, and the ore worked at the mill by Capt. Wilder, instead of this worthless dump pile. If assays of the pulp from the stamps had been made daily, there should have been some attempt to rectify this serious disappointment to the shareholders. There are, no doubt, deposits of rich paying ore in the Camp Floyd Mines, which can still be got out of the present workings without depending upon the results of sinking the shaft alluded to, although there can be little doubt that this shaft would soon strike the continuation of the rich body of ore found in the adjacent mines. Camp Floyd Silver Mine is, in my opinion (from enquiries I have made from those conversant with the facts of the case), a present disappointment solely from the cause which I have stated, and I firmly believe that with more thoughtful energy and good management the mine will yet prove a handsome remunerative property.—*London, Dec. 19.* A SHAREHOLDER.

[For remainder of Original Correspondence see this day's Supplement.]

WATSON BROTHERS,

MINING AGENTS, STOCK AND SHARE DEALERS, &c.,

1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

SATURDAY.—Active demand for Carn Brea, Dolcoath, Tincroft, Crebor, East Lovell, West Frances, Rosewell Hill and Ransom United, and West Basset at an advance. Carn Brea, 155 to 160; Dolcoath, 62½ to 65; Tincroft, 65 to 67; Crebor, 37s. 6d. to 42s. 6d.; East Lovell, 18 to 19; West Frances, 14½ to 15½; Rosewell Hill and Ransom United, 1½ to 2; West Basset, 8½ to 9; Wheal Grenville, 6½ to 7; New Rosewarne, 5 to 5½; Wheal Argus, 1½ to 2½; Hingston Down, 8½ to 9; Chontales, ¾ to ¾; Pacific, 1½ to 2½; Emma receded to 18½.

MONDAY.—Market firm for most description of tin stock, and stock scarce. Grenville, 6½ to 7½; New Rosewarne, 5 to 5½; South Condurrow, 8 to 8½; Tincroft, 55 to 60; Dolcoath, 64 to 66; New West Rosewarne, 6 to 6½; Great Wheal Vor, 6½ to 6¾; Carn Brea, 155 to 160; Wheal Argus, 1½ to 2½; Emma, 18½ to 19½; South Aurora, 1 to 1¼.

TUESDAY.—Good demand for West Frances, Crebor, Cook's Kitchen, and West Tankerville. Hingston Down and Emma weaker. West Frances, 14 to 15; Crebor, 3 to 3½; Cook's Kitchen, 27½ to 30; West Tankerville, 3½ to 3¾; Hingston Down, 8 to 8½; New Rosewarne, 4½ to 5½; Grenville, 6½ to 7; Marke Valley, 3½ to 3¾; Wheal Buller, 17 to 18; West Chiverton, 11 to 12; Tankerville, 14 to 15; Roman Gravel, 18 to 19; South Carn Brea, 4¼ to 4½; St. John del Rey, 20 to 21; Emma, 18 to 19½.

WEDNESDAY.—Market again active for Crebor, West Tankerville, South Roman Gravel, and West Frances. East Lovell, and South Frances. Crebor, 3½ to 4; West Tankerville, 3½ to 3¾; South Roman Gravel, 1½ to 1¾; West Frances, 16 to 17; East Lovell, 18 to 19; South Frances, 18 to 20; Great Laxey, 14½ to 15½; Wheal Buller, 17 to 18; East Van, 6 to 6½; Cook's Kitchen, 27½ to 30; Bog, 1½ to 1¾; West Maria and Fortescue, ¾ to ¾; Prince of Wales, ¾ to ¾; Eberhardt and Aurora, 6 to 6½; Emma, 18½ to 19½; Utah, 15s. to 20s.

THURSDAY.—Market moderately active for South Roman Gravel, Crebor, West Tankerville, and South Frances. Hingston Down advanced to 8, buyers; West Roman Gravel, 14 to 15½; Crebor, 3¼ to 4¼; West Tankerville, 3½ to 3¾; Carn Brea, 15s. to 21s.; South Frances, 17 to 19; New West Rosewarne, 6 to 6½; Argus, 1½ to 1¾; Van Consoles, 5 to 5½; Tincroft, 57 to 59; Wheal Ury, 4½ to 5; Dolcoath, 65 to 67½; Pennerley, 2½ to 2¾; Parys Mountain, 1½ to 1¾; Perkins Beach, 65 to 67½; Chontales, ¾ to ¾; Emma, 18½ to 17; Pacific, 1½ to 2; Utah, 1½ to 1¾.

"DOWSING."—It is reported that the almost obsolete art of dowsing, or searching for copper by means of the divining rod, has been practised lately at the Adelaide Copper Mines, by one or two adepts in that occult profession, with what result has not been stated. That some of the numerous shafts which turn out trumps is not at all unlikely, but it is feared that the majority of the adventurers will ultimately acquire to their sorrow an acquaintance with the three degrees of comparison in mining—mine, minor, minus.

Meetings of Mining Companies.

GREAT WHEEL VOR UNITED MINING COMPANY.

The quarterly general meeting of shareholders was held at the offices, Gresham House, on Wednesday.

Mr. J. O. HANSON in the chair.

Mr. J. J. TRURAN (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

The report of the committee was read, as follows:—

The committee have the pleasure to report that since the last quarterly meeting, in September, the development of the mine has been prosecuted satisfactorily, and notwithstanding the immense quantity of rain that has fallen no let or hindrance has occurred. The committee have pleasure in also stating that the lode has been at last cut west of the cross-course, west of Edwards's shaft, in the 164 fm. level. At the point of intersection it was worth from 70s. to 80s. per fathom, since which it has continued good, varying from 40s. to 60s. per fathom. The lode is well defined, and gives every reasonable prospect of continuance. The shareholders will readily understand what an important feature this is to the future prosperity of the company, when it is stated that the extent of the set in this direction may be estimated at about 300 fms. The lode has also been cut at the bottom of Edwards's shaft, in the 194 fm. level, but as far as seen not of much value; at the same time, very little at present has been done on it, a necessary rise having to be made to the level above for ventilation. As soon as this is communicated the men will be put to drive east and west on the lode in the 194. As the report from the agents gives details of the explorations at these points, the committee will not dwell further upon them, except to express their hope that when further time has been given to their development profitable results may be obtained. The committee may also point with satisfaction to the improved prospects which have taken place in the 184 fm. level, east of Metal shaft, where there are now two good pitches at work, and an extent of unexplored ground of from 40 to 50 fms. It having been considered advisable to procure an additional boiler for Edwards's 60-in. engine, a suitable second-hand one has been purchased at a cost of 250s., which the committee believe will not only add to the efficiency of the engine, but effect a diminution in consumption of coal. On the publication of the audited cash account, on Oct. 31 last, there was a balance in hand of—

Tin sale in November	1532	8	2
Dividend in December	1297	12	0
For old materials, &c., sold at the mines	79	1	6
For tribute and royalty on tin sold from leases	99	3	1
And paid—Mine cost for four weeks ending Oct. 13	12662	16	0
Nov. 10	1791	13	4
Salaries, three months	86	0	0
Travelling expenses of deputation to the mines	9	10	0
Sundry postage, discount, &c.	9	3	10
	3559	3	2

Balance in favour of the mine—£367 10 3
It will be seen that the financial balance is less than on the last occasion by over 500s., but this is clearly accounted for by the diminution in the price of tin. The sale in September averaged 92s. 5s. per ton, whilst the sale a few days since was only at an average price of 80s., a circumstance over which the committee can have no control. In conclusion, the committee hope, when they meet their fellow-adventurers in March next, they may have to report an improvement in the price of tin, a diminution in the price of materials (particularly coal), and a greater abundance of labour, and that the important points of development now in operation have increased in value.

The report of the agents was read, as follows:—

Dec. 13.—The 194, driving east of Metal shaft, is on a small and unproductive lode at present, but having two good pitches working in the bottom of the level above, a few fathoms in advance of this end, we expect to meet with the same run of tin found here soon. The 184 is on a well-defined lode, 2 ft. wide, producing a little tin, but not of much value.—Edwards's Shaft: The rise in the back of the 194 cross-cut, north of this shaft, is up 3 fms.; the lode here is small and poor. The 184 driving west has improved within the last day or two, now a very kindly end, worth 10s. per fathom. The levels above have improved as we extend west towards the cross-course, and we expect the same result here. The winze sinking below this level, opposite the shaft, is communicating with the rise above the 194, is down 6 fms.; lode not well defined, but producing some stamping work. The 174 is on a lode 2½ ft. wide, worth 30s. per fathom. We expect this end is now within two or three fathoms of the first limb of the great cross-course. We have just commenced a rise above this level, 3 fms. behind the end, on a lode 2 ft. wide, worth 20s. per fathom. The 164, west of the cross-course, is on a lode and branches 4 ft. wide, worth 40s. per fathom. We have opened on the lode here about 3½ fms., through a good piece of tin ground. A rise above this level, close to the cross-course (west) is on a lode and branches 5 ft. wide, worth 50s. per fathom. The discovery of the lode west of the cross-course has added greatly to the prospects and value of the mine. We believe now it only requires a little time to open up a good paying mine. Our tribute department has not yielded so much tin this quarter as formerly, owing to having a less number of tributaries. Our water is still a little on the increase, but having ample machinery for pumping we have no difficulty in keeping the mine in fork. We shall have the new boiler working at Edwards's next week.—SIMPSON HARRIS, JOHN JAMES.

The CHAIRMAN said he occupied the chair in the absence of their respected Chairman (Mr. Divett), whose great experience and practical advice had been of considerable benefit at the mine, where he had been present at a meeting of the committee, in company with Mr. Husband and Mr. Truran. The reports of the committee of management and the agents put the shareholders in possession not only of the exact position of the mine but also of its financial position. It was a gratifying circumstance to the committee that at last the lode had been seen on the other side of the cross-course west of Edwards's shaft. The 174 and 184 were approaching the cross-course, while the 164 has passed through it, and they had tin in all three of the levels. They now knew exactly the position of that lode west of the cross-course, which was a point of considerable importance. They were putting up a rise from the 164 to the 154, where the lode was worth 50s. per fathom. Some improvement had also taken place in the extreme eastern part of the mine, in the 194 and 184 fm. levels, where there were two good pitches; and, judging by the present indications, there was reason to hope that in this portion of the mine an improvement would soon take place, which would add materially to the value of the mine. They were suffering from the high price of coal, although not quite so much as upon the last occasion, the price having declined 2s. per ton, and they hoped to see a further diminution; and as to labour, they could very satisfactorily employ, certainly, from 20 to 30 more men if they would only find their way to the mine, which it was hoped they would do before long, because the extreme cost of materials in different parts of the country was tending to close many mines that were in a less encouraging condition than Great Vor, so that they might reasonably expect that labourers would soon be in search of employment. He then moved that the accounts be passed and allowed.

The resolution was put and carried unanimously.
Mr. MARSDEN had much pleasure in proposing the re-election of the committee of management for the ensuing three months. He apprehended it would be the pleasure of the shareholders that these gentlemen should be re-elected; for although this was the second quarterly meeting without a dividend being declared, he was quite sure it was no fault of theirs, and that no reproach whatever could be cast upon the management. They had done all that under the circumstances they could possibly do to make the mine productive and profitable, and he was quite sure they could not do better than leave the management in the same hands. (Hear.)—Mr. WALKER seconded the proposition, which was put and carried unanimously.

The CHAIRMAN acknowledged in appropriate terms this renewed mark of the shareholders' confidence. The committee tried to do their best for the prosperity of the company; they had a large interest in it, and in working for the shareholders they were working for themselves. At the same time, that was no reason why they should not duly appreciate the confidence which the shareholders reposed in them. (Hear, hear.)

Upon the proposition of Mr. HALE, seconded by Mr. WALKER, the sum of 20 guineas was voted to the committee for their services during the next three months, to be divided amongst them according to their attendance, or as they may elect.

Mr. Moates was re-appointed auditor.
Mr. LIBBY said that as the lode had been reached west of the cross-course shareholders need have no apprehension as to the result. The CHAIRMAN said he did not like to say too much, in case shareholders should be disappointed.

Mr. WALKER proposed a vote of thanks to the Chairman and committee, and expressed full faith that they would ultimately have a good mine.—The proposition being duly seconded, was put, and carried unanimously.

The CHAIRMAN acknowledged the vote, and expressed his pleasure at seeing such a large attendance of shareholders, and wished them a merry Christmas and a prosperous new year.—The meeting then separated.

WHEEL SETON MINING COMPANY.

At a meeting of shareholders held at the mine, on Monday, Mr. Tilly, the purser, having refused to put to the meeting certain resolutions proposed by the shareholders, and having caused the cost-book to be removed, it was proposed by Mr. R. THOMAS, and seconded by Mr. W. H. BYLE, and resolved unanimously, that Mr. Thomas Angrove take the chair. The following resolutions had been previously proposed and carried:—That none but shareholders and representatives of the press be present; that the consideration of the accounts, and the making of a call, be deferred until the next special meeting; that the agents' report be passed.

The following resolution was previously passed, under protest, by the purser:—

That the services of the present executive be dispensed with—the purser, manager, under agent, and all other agents of the mine.

Resolved.—That the management and pursership of this mine be offered to Capt. W. Teague, of Carn Brea, Tregroff, Wheel Killy, and other mines, and that a deputation consisting of Messrs. W. H. Tregroff, R. Thomas, and T. Angrove, be appointed to wait on him to receive his reply.

Resolved.—That a special meeting be called for Dec. 27, to confirm the resolutions passed at this meeting, and also for the purpose of receiving Capt. W. Teague's reply, and the accounts, making a call, and transacting the ordinary business of the mine, and in the meantime Capt. Gabriel Mill be requested to look after the mine in the interest of the adventurers.

ST. JOHN DEL REY MINING COMPANY.

The general meeting of shareholders was held at the London Tavern, Bishopsgate-street, yesterday.

Mr. JOHN HOCKIN in the chair.

The notice convening the meeting and other usual preliminaries having been disposed of, the report of the directors was submitted, as follows:—

The pumping to unwater the mines, after its temporary suspension through the falling in of the mine surface, was continued until Aug. 3, when the pumps in both shafts were reached. Thus the whole of the accumulated water filling the vast excavation of the old mines to the depth of 60 fms., together with the ordinary feeders to the shafts themselves, were overcome by the new pumping machinery in little more than four months and a half. On Aug. 27, the new hauling-wheel having been completed, sinking was resumed.

From that date to Oct. 31, the date of the last advice, A shaft was sunk 8 fms. 3 ft. 2 in., making its total depth 135½ fms.; and B shaft was sunk 8 fms. 4 ft. 1 in., making its total depth 133 ft. 2 in. The entire depth to be sunk to carry the shafts 10 fms. below the old level is 178 fms. In the three months during which sinking has been resumed less progress has been made than was previously, owing to various hindrances incident to re-commencing a work long under suspension, and subsequently a hard vein of pyrite mineral, running north-east and south-west across both shafts, was encountered, which on Oct. 31 had not been passed through.

The cost incurred on new shafts for the six months to Sept. 30 has been—For sinking, &c., 3021s. 7s. 3d., and for surface works 5672s. 19s. 1d.—£8694. 6s. 4d. The total expenditure on this account since the work was commenced has been 58,854s. 7s. 8d.—115s. 1d. per fathom, or, deducting cost incurred during suspension of work, 1057s. 5s. 4d., whilst the original estimate was 1077s. 11s. per fathom. Provided fair average sinking can be maintained in future, it is not probable that this average will be exceeded.

The expenditure on surface works has been greatly increased by the falling in of the mine surface, which necessitated the removal and re-erection of a portion of the expensive launders by which the water is conveyed to the new wheels, and also the removal and re-erection of one of the pumping-wheels, with other expensive works. After the falling in of the mine surface in February, there remained no means of profitable occupation for the force hitherto employed in these works, but the superintendent was fortunate enough to obtain employment elsewhere for the spare staff during June and July.

From these sources on surface, and from re-grinding refuse sand, there were recovered during the six months 11,319 lbs., or 1306 9/16 ozs. of gold. There were also recovered from Gala Mine during the same period 7276 ozs., or 829 11/16 ozs. gold. These together, on sale in London, produced net 7553s. 10s. The loss on Morro Velho for the seven months to September 30 was 4539s. 6s. 11d., but there was a small profit on the same account, the cost of the same being 4539s. 6s. 11d., and the sale of the same at 170s. 0s. 10d., leaving a net loss of 4169s. 5s. 1d. There has been paid for interest on debentures and on temporary loans in England and Brazil 1349s. 18s. 8d.

The loss shown was incurred during the first five months of the half-year, when remunerative employment could not be found for the company's staff. Since July no loss has been incurred under the above head. Of the 22,000s. debentures issued under the resolution of Dec. 20, 1871, 16,200s. have been paid off—except 320s. not yet presented for payment—and 5800s. have been continued for the full term of five years, at the request of the holders.

The statement of the financial position of the company showed that the assets in England on Nov. 30 were 10,812s. 6s., and the liabilities 8325s. 12s. At Morro Velho and Rio de Janeiro, on Oct. 28 and 30, the assets were 5466s. 14s. 1d., against which the personal accounts to pay were 501s. 3s. 9d. The value of stores in stock at Morro Velho, on Sept. 30, was Rs. 218 8/24, at 26d., = 23,672s. 18s. 8d., and of stores in transit to Morro Velho, all paid for, 3670s.

The CHAIRMAN said: The report we now present to you gives a full statement of the past half-year's work, both at home and abroad. The difficulty we were contending against when we last met, of overcoming the water that had accumulated in the old mines during the preceding four years, has been surmounted, and we are again making steady progress in sinking. By the advice received on Tuesday, A shaft had been sunk 137 fms. 2 ft. 4 in., leaving further to sink in that shaft 40 fms. 3 ft.; and B shaft had been sunk 135 fms. 1 ft. 5 in., leaving further to sink in that shaft 42 fms. 4 ft. 7 in. As you will have seen by the report, the progress has not been equal to the average before the influx of water occurred. The chief cause of this has been the hard, tough mineralised vein which has been met with in both shafts, and which has proved very difficult to bore and quarry. The superintendent states that more labourers' time is required to sink 3½ fms. in this rock than would be required to sink 5 fms. in the slate rock hitherto penetrated. This vein, as far as yet developed, Mr. Gordon describes as follows:—

"This body of mineral appeared first in the west edge of the sumps of these shafts inclining south-east. It was met with 21 ft. higher up in the B shaft than in the A, and from this vein the body is dipping in a northerly direction towards the general lode of the East Cachoeira. As these shafts have not yet passed through the body of mineral, no correct estimate can be formed as to its actual dimensions, dip, or inclination. But there is reason to conclude that it is a body of mineral penetrated in both shafts, and that its general direction is north-east by east and south-west by west. It consists of quartz, blue clay-slate, and a coarse kind of iron pyrites, with some short veins of arsenical pyrites. The mineral is being reserved, and will be stamped as soon as it can be conveniently, and without undue expense, conveyed to the stamping mill, for by this process alone can the value of a formation composed of such diversified materials be ascertained. Assays made from samples of it would be an unsafe guide by which to form an opinion as to the value of the whole bulk. Mr. Gordon says, in reference to this mineral:—

"From appearance it might be estimated as likely to give 3½ ozs. of gold per ton, though the whole body is so mixed and unequal in quality that it is impracticable to form a correct opinion as to its probable gold contents, or what might be recovered from it by treatment in the stamps."

The tramway in course of construction from the new shafts to the stamping mills not being complete is the reason why this mineral cannot be immediately reduced in the stamping mills. We have suggested to the superintendent the desirableness of opening out on this vein to the south, in order both to ascertain its size and also that, if on being stamped it should be found to repay the expense of treatment, a larger quantity may be available than can be obtained from the area of the shafts. The cost of sinking the shafts—that is, sinking and all the work and material incident to sinking, pumping, and bringing the quarried rock to surface—has, you will observe, been hitherto 115s. per fathom, but that includes the expenses incurred during nine months when sinking was suspended, so that the actual cost of sinking whilst the work was in progress has only been 105s. 5s. per fathom. During the months of September and October, when the rock was so hard and tough, the cost of sinking was 116s. per fathom, but had we been working in the slate formation during these two months the cost would not have been more than 80s. per fathom. I mention this because it is sometimes thought that the expense of sinking increases with the depth. Practically it is not so, for though you require greater pumping and hauling power the deeper your work is, yet when once machinery is erected of sufficient power to draw from the greatest depth contemplated, the expense of sinking is not appreciably increased by depth. The keeping the increased length of pumps and timber in repair being almost the only additional expense, and this is to a certain extent offset by the less expensive mode of lifting the water by pumps as compared with other means. During the past half-year the whole of our new machinery has been completed. It consists of a hauling-wheel and two pumping-wheels, with the necessary rods, uprights, and pulleys for drawing and pumping at a distance of 170 yards, which is the distance of the wheels from the shafts. The hauling-wheel is the largest and most powerful ever erected on the company's property, or in Brazil. It is calculated for drawing to the surface at one time 5 tons of mineral. The pumping-wheels are, it is confidently believed, capable of raising all the water likely to be met with. The breach, or chasm, formed by the falling in of the mine surface in February last remains in much the same state as it was a month after that occurrence took place. Small portions of the surface edges have fallen in, but the breach has not extended itself to any appreciable extent, though the rains, which might be expected to cause surface landslips into the chasm, had set in at an unusually early period, and had been very heavy. Great pains had been taken before the rains set in to construct waterways and launders to convey the whole of the surface drainage away from the breach, and thus prevent its going down into the old mines, and adding to the quantity to be pumped up at the new shafts. This work has been so successfully performed that though more than 13 in. of rain had fallen in October the feeblest of the new shafts had not perceptibly increased. The loss on the general working account, you will have seen, has been 4169s. for the half-year, which includes seven months' cost, March to September inclusive, though only six months' gold is credited. We are glad, however, to be able to report to you this loss was incurred during the first five months of the half-year, during which the mines being inaccessible, your superintendent could not find profitable employment for even the reduced force on the establishment. In August, however, the road contracts, which I informed you at the last meeting Mr. Gordon's influence with the Brazilian authorities had been so fortunate as to secure, took effect, and since that date no loss has been incurred on this account. The sums receivable from these contracts vary every month slightly, according to the quantity of materials supplied for the bridges and similar work, but the amount may be taken at about 1400s. a month, which, if maintained at that rate, will go far to pay the current expenses of keeping the staff together, and the buildings and machinery in repair, until they will be again required for opening out and working the mines in depth. The financial position of the company made up to the latest date before going to press is given in the report. We have since accepted drafts to the extent of 2000s., and the sum of 1790s., appearing as unpaid calls, has been reduced to 57s. It will be seen that we are in a sound position as to the middle of February; we, therefore, do not intend to make the call we intended to make in January until February, payable at the end of that month.

Mr. TENDRON would like to ask the position of the new pumping and hauling wheels; that was, whether they were north or south of the old workings, and also their distance from the chasm; he would like to know that there was no danger to be anticipated from further slips.

The CHAIRMAN said that the wheels were about 170 fms. west of the new shafts, and about 50 yards from the eastern edge of the chasm. On the eastern side of the chasm there had been no falling in, although there had been a slight further slip on the northern side; they did not fear any danger on that head. Something had been said about the cracks, but it was the universal opinion that no danger was to be anticipated from them; in the lower part of the shaft some water came in through them, and in the upper foul air. This foul air had given them some trouble, but nothing more.

Mr. TENDRON remarked that there had a short time since been a rumour on the Stock Exchange that the new shafts had been sunk in the wrong position, and that they had, consequently, come down into the old workings before they expected. He had seen this stated in the *Morning Journal*, and would, therefore, ask the Chairman whether there was any impression in his mind, or in the mind of those at the mine, that a mistake had been made as to the location of the shafts? The CHAIRMAN said that the rumour, like others of a similar character, had gradually died out. The rumour was that the bottom of the shafts had dropped out, but of course it had no foundation; the best proof of which was that they had been sinking for two months since in solid stone. There was no reason to doubt that the shafts were in the proper place. In fact, they were not only in the right place, but in the only place where it was practicable to sink them. As to the opinion of the people at the mine, it would probably suffice to state that orders to purchase 45 shares came home by the last mail, and those at the mine would certainly not buy unless they had full confidence in the mine.

A SHAREHOLDER enquired whether they were using the diamond drill in their boring operations.—The CHAIRMAN said they were not; they were boring in the old-fashioned way, which they considered preferable. He had a high opinion of the diamond drill, but only for certain purposes; he had carefully studied the working of the diamond drill at a mine he was interested in in Wales, and was satisfied with it there; but when he looked more closely at it, they considered it not worth having a diamond drill when they had only 40 or 50 fms. in each shaft to connect, and the drill would then be thrown aside as useless. There was, however, a percussion drill, of which they had some thoughts, but they had not yet contracted for one.

A SHAREHOLDER could not understand how if the diamond drill was valuable for vertical drilling it could not be employed for driving?—The CHAIRMAN explained that the system of boring with the diamond drill necessitated the use of stands so heavy and cumbersome that they were impracticable to level.

A SHAREHOLDER enquired whether it was contemplated to increase the capital of the company?—The CHAIRMAN thought it was hardly time to think of increasing the capital of the company. By next June they would have the new shafts nearly through, and he believed there would then be no difficulty as to furnaces.—The adoption of the report was then put to the meeting and carried unanimously.

The CHAIRMAN, having declared the meeting to be now a special meeting, said that the only proposition they had to submit was one for the conversion of the shares of the company into stock, the advantages of which would be—firstly, that it would much simplify the work of the office; the second reason was that the shares were too heavy for the market, and as they allowed 8s. stock to be transferred, the difficulty would be removed. He then read the subjoined resolution, which had been drawn by the solicitor of the company and settled by counsel:—

Resolution for conversion of shares into stock.—1. The directors may, whenever they think fit so to do, convert any fully paid-up shares now subsisting or hereafter to be issued into stock.—2. When any shares have been converted into stock several holders of such stock may thenceforth transfer their respective interests therein, or any part of such interests in the same manner, and subject to the same regulations, as and subject to which any shares in the capital of the company may now be transferred, or as near thereto as circumstances admit.—3. The several holders of stock shall be entitled to participate in the dividends and profits of the company according to the amount of their interests in such stock, and such interests shall, in proportion to the amount thereof, confer on the holders thereof respectively the same privileges and advantages for the purpose of voting at meetings of shareholders and for other purposes, as would have been conferred by shares of equal amount in the capital of the company; but so that none of such privileges or advantages, except the participation in the dividends and profits of the company shall be conferred by any such aliquot part of consolidated stock as would not, if existing in shares, have conferred such privileges or advantages; and no privilege of voting shall exist in respect of any amount of stock under 20s.—4. In the construction of the articles or regulations for the time being of the company, and unless otherwise expressly declared, in all special resolutions the expression "share" or "shares" shall not only mean a share or shares in the capital, but, after the conversion of any paid-up share or shares into stock, shall, for all purposes whatsoever, apply to such stock, each amount of 20 stock and one paid-up share being considered as identical.—5. No person shall hold or transfer any amount of stock in the company which shall be less than 5s., or shall not be a multiple of five.

A SHAREHOLDER thought the change unnecessary; he had held his shares for 35 years, and was averse to any change now.

Mr. TENDRON thought the proposed change most desirable; it would be a stamp of confidence to the company. They all knew that it was much simpler to deal in stock than in shares; it gave not one-half the trouble in the office. (The CHAIRMAN: Not one tenth.) And he could see no disadvantage whatever; he would unhesitatingly support it.

An amendment was proposed for deferring the consideration of the resolution for six months, but it was rejected by a large majority; and on the original resolution being put 24 voted for it and six against.

The CHAIRMAN then declared the resolution carried, and stated that a second meeting would have to be called to confirm it; this would be quite formal, and would be held at the company's offices on Jan. 8.

The best thanks of the meeting were unanimously voted to the Chairman for the hard work he had done for the company, and the good spirit in which he had always done it, and the meeting separated.

MOUNTAIN CHIEF MINING COMPANY OF UTAH.

The statutory meeting of shareholders was held at the Cannon-street Hotel, yesterday.—Mr. MORRIS KING in the chair.

The SECRETARY read the notice convening the meeting.

The CHAIRMAN said that the business at the first meetings of companies was usually of a formal character, but to-day the directors were in a position to give some useful and agreeable information. As the shareholders were aware, almost all the capital was subscribed privately by a small number of gentlemen, and very great credit was due to Mr. Valentine for the very great perseverance and intelligence which he had displayed in connection with the company. He would now ask the secretary to read the report which had been received from Mr. Valentine:—

Acting under instructions, in the month of August last I paid to the owner of the Mountain Chief Mine 1200s., under a contract allowing the mine to be explored and worked for three months, and all the ore extracted to be sold, and agreeing to give up possession at the expiration of that time to the vendors, and forfeit the sum paid unless the purchase was completed by the time named in the agreement. I immediately gave instructions to the superintendent to develop the mine and to employ eight men. Considerable delay naturally occurred in getting the necessary tools, providing accommodation for the workmen, and preparing for the mining. The time was to follow the lodes and make such explorations, on a limited scale, as could be done, so as to arrive at some conclusion as to the actual value of the property. During this time I have expended 600s. in tools, running drifts, and sinking shafts, and I have received 1200s. from the sales of ore extracted. I gave no instructions for driving extensive tunnels or continuing deep shafts, because, if from any unforeseen circumstances preventing the contract within the time named, the purchase had not been completed, the result of such explorations and developments would have to be called to confirm it; this would be quite formal, and would be held at the company's offices on Jan. 8.

The best thanks of the meeting were unanimously voted to the Chairman for the hard work he had done for the company, and the good spirit in which he had always done it, and the meeting separated.

Mr. JOHN ELLIOTT proposed a dividend at the rate of 12 per cent.

per annum for the two months of November and December. The company had been making a profit from the very commencement of the works. The report of Mr. Valentine was only given to the directors a few minutes before coming to the meeting—in fact, Mr. Valentine had only been home two or three days, and, therefore, the directors had not had much opportunity of cross-examining him upon the facts. It was important to know (as they gleaned from the report) that they had a true feature in themselves, which was proved by striking the vein 75 ft. from the surface, and having the usual characteristics which distinguished that class of mine from those which were merely pockets, or chambers. There was another important point in favour of the company, and that was that the quality of the ore was exceedingly good, assaying 1800, not by mere samples, but by bulk. The furnace-owners in the neighbourhood came to the mine to buy ore, and left 850 per ton to this company, of which 440 per ton was clear profit. But it was a small proportion of the profit, and the other portion was taken by the furnace-owners as their profit, and they reaped an immense profit from it. Even with this inefficient means of working the directors were able to declare a dividend at the rate of 12 per cent. per annum; and he trusted that when everything was in proper working order the returns would be

much larger, and more satisfactory. He believed that in one letter Mr. Valentine estimated that 2000 per week profit could be obtained from the labour of 15 men. That was an extraordinary result, and the shareholders were fortunate in having secured such a property, which would, perhaps, release the character of American mines from the stigma which—perhaps to some extent unfairly—rested upon them. In conclusion, the Chairman moved the declaration of a dividend for the two months of November and December at the rate of 12 per cent. per annum.

Capt. Ross seconded the resolution. Mr. SHAW said that on looking through the prospectus he saw there was a sort of half promise that dividends should be paid monthly, and now it seemed that they were going to be paid quarterly; perhaps the Chairman would explain how it was. He asked whether the shareholders contemplated going to the expense of putting up a furnace? If they could increase the output and extend the works, and afterwards put up a furnace, he thought it would be satisfactory. In a new country, where there were few furnaces, if there was anything in the shape of monopoly the company was subjected to it, and it should be broken down. The report of Mr. Valentine was of a very congratulatory character, and he hoped the shareholders would thank Mr. Valentine for it. He hoped that there would be a chance of retaining Mr. Valentine's services. He was satisfied that the company possessed a most valuable property. Not only was it a fissure vein, but it was in the granite, and that was a good sign. He proposed a hearty vote of thanks to Mr. Valentine for his untiring perseverance from the commencement, and for the services which he had rendered to this company.

Mr. ELLIOTT seconded the resolution, and in so doing, said, in answer to Mr. Shaw, that the directors considered it more prudent to pay two-monthly dividends at the commencement of the company; but, no doubt, when the deal work was completed, and the mine yielding systematically, they would pay quarterly dividends. The mine was opening up even better than was expected. At 450 ft. from the furnace the projected tunnel would strike the lode, which would add enormously to the value of the property, and enable them to work it for years at a very great advantage. He considered Mr. Valentine was fully entitled to the vote of thanks which had been proposed to him. The board would not be pleased to lose Mr. Valentine's services, but they had not had time to go into the question. The two resolutions—the declaration of a dividend and a vote of thanks to Mr. Valentine, were then put, and carried.

Mr. VALENTINE, in acknowledging the compliment, said that the handsome results were due more to the richness of the mine than to his own exertions. He was willing to do all he could for the company, but he should only be able to go back for six months, and whilst there he would do all he could for the welfare of the company. Some of the mines in the vicinity were developing wonderfully, and he stated facts connected with one or two of the adjacent properties which warranted the belief that this company would yield very much better results even than at present.

Mr. ELLIOTT asked whether there was any fear of the company's rights being interfered with by "jumping" claims?—Mr. VALENTINE said that the proper steps had been taken to obtain a United States patent, and he had no doubt in the world that when the proper preliminaries had been observed (to do which steps had been taken) the patent would be obtained, and possibly within three months.

Mr. VALENTINE, in answer to Mr. ELLIOTT, said that the company had a right to go 15,000 feet from its lode in any direction, until other persons came down from the surface and proved that it did not belong to this company.

The meeting then separated.

[For remainder of Meetings see to-day's Supplement.]

COAL-OIL INDUSTRY OF SCOTLAND—No. II.

THE COATBRIDGE OIL WORKS.

From the year 1850 to 1864, when Mr. Young's patent for obtaining paraffin oil from bituminous coal expired, the trade may be said to have been in the hands of a monopoly of manufacturers, who made princely profits from the business. It was in these years that Mr. Young, and perhaps one or more of his partners, made fortunes, as the prices realised since 1864 have been nothing like what they were before that. Men of capital and energy were naturally anxious to share in these profits, and in a few cases were bold enough to commence manufacturing paraffin oil from coal, even at the risk of infringing the patent, and the result was a number of lawsuits at the instance of Mr. Young to protect himself. In 1855 Messrs. George Miller and Company, the partners of the then Clydesdale Chemical Company, of Cambuslang, and Messrs. John Miller and Company, of Aberdeen, commenced to manufacture oil, and refine it, from the Torbanehill mineral, upon which Mr. Young brought an action against these parties for infringement of his patent. Mr. Young was successful in this case, the damages and costs amounting to 7500*l.*, besides the amount fixed to be paid as royalty on all the oil manufactured by the defendants under the patent. Another case was that of E. W. Fernie, of the Saltney Oil Company, who challenged the validity of the patent. He wrought upon the same process, but used the Leeswood canal, in Flintshire, instead of the Boghead coal. The case lasted 40 days, and Mr. Young was again successful, the amount of damages and costs being very great. The famous Torbanehill case, Gillespie v. Russell, and the interest in which has been somewhat revived of late from the recent great fire of a heap of the mineral, arose out of the same patent.

It is right to bear clearly in mind, however, that although Mr. Young's patent was in force during those years it did not preclude anyone from manufacturing oil from any other mineral substance except coal; and, taking advantage of that, a number of works were in operation previous to 1864 for distilling oil from shale, which was before this considered as rubbish by miners, and consequently was got much cheaper than Boghead coal. Amongst the first was Mr. Gray, of Levensat, who used a seam of shale found in the limestone on the estate of Calderhall. In 1860 retorts were erected by Dr. Steel, of Wishaw, at Broxburn to distil oil from shale supplied by Mr. Bell, who had leased the shales on the estate of the Earl of Buchan. Mr. Bell also erected retorts for distilling the shale. The Broxburn Shale Oil Company was formed early in 1862, but was wound-up in about two years afterwards, after having expended a large sum of money in erections. Mr. Fernie, of the Saltney Oil Works, occupied the ground after them. He built 200 retorts, but sold the works to the Glasgow Shale Oil Company (Limited), which continued to produce large quantities of oil from shale supplied by Mr. Bell. About the same time (1862) the West Calder Oil Works were erected by Messrs. Fell and Co., for the purpose of obtaining oil from shale mined on the spot. Messrs. Raeburn at this time also erected retorts at the Grange for distilling shale. The Oakbank Works, in Mid-Calder, were erected in 1863, and made oil from shale previous to the expiry of Mr. Young's patent. There are extensive fields of shale, as is well known, at Uphall, on the estate of Mr. McLagan, M.P. for Linlithgowshire, and he erected also a number of retorts, in which he used the shale previous to 1864. On the expiry of the patent in 1864 capitalists, feeling themselves free to go and share in this source of profit, quite a rush was made into the trade. Very large sums of money were expended in building works, and shortly after a number of failures took place. This arose from the prices suddenly falling to much less than half what they were before, which was caused not so much from an over supply in the market, as the demand was rapidly developing, but principally from large quantities of petroleum which began in 1865-6 to be sent from America to every port in Europe, thus in a great measure swamping the coal-oil trade. The companies have now got the better of this, and, although the profits are small, the trade is on a firmer and more secure basis, and likely to improve gradually and surely. There are now between 60 and 80 works in Scotland; and after this season it is expected that it will revive, and that the profits will be such as to encourage manufacturers to further develop the trade.

The principal works are to the east of Glasgow, and are included in a circle which would be drawn between Coatbridge, Bathgate, and Mid-Calder. In fact, such a circle, particularly towards the east, embraces the whole of the ground which was so famous in the early history of the oil trade. It has been customary in giving any account of the Scotch coal-oil trade to go to the eastern limit of the line indicated, passing by all the smaller works, and to describe the largest works. We will take the works as they come to one, starting from Glasgow; and the first we come to are the works of the Coatbridge Oil Company and of the Uddington Oil Company, both situate about seven and a half miles from Glasgow, and about two miles from Coatbridge, to the south-west.

The Coatbridge Oil Works are of considerable extent, taking up, with the various erections, from 14 to 15 acres of ground. They are the property of Messrs. Malcolmson, of Waterford, Ireland, most enterprising gentlemen, who have an extensive connection in several branches of manufacture. They went into this trade in 1866, at the time when so many were attracted to it. They commenced building in 1866, and were making oil at the close of 1867, since which time their works have been in full operation. During the past two years the works have been put to their full producing power, and much larger quantities of oil and other products have been sent out under the present management than formerly. Much credit is due to the manager, Mr. Martin, for the energetic manner in which the works have been carried on, and also to Mr. King, who

has charge of the mercantile department. A number of important additions and improvements have been made recently. Another stock-tank, capacity 60,000 gallons, has just been completed; and an additional tank well advanced in the erection. The oils and other products have always held a good position in the market, on account of their whiteness and purity.

On visiting the works the first place we are taken to is the breaking-shed, which is 135 ft. long and 31 ft. wide, supported with iron pillars, and floored with cast-iron plates. Here the Parrot coal used is broken into smaller pieces, after which 15-cwt. charges are filled into hutchies, and conveyed to the retorts, which are quite contiguous to the breaking-house. The coal which is used for destructive distillation in the retorts is a good Parrot coal, got from the pits of Mr. Hendrie, of Kirkwood Colliery, close by, between which pits and the works there is connection with the railway, and the coal is led in as required in wagons under the breaking-shed.

Coming next to the retorts, they are in three long benches, 100 in number, of Griffith's patent horizontal retort. It is an entire cylinder of cast metal, 10 ft. long and 3 ft. 6 in. diameter, with a mouth-piece bolted on to the flange, in which are two doors, one above the other, the upper for charging and the under for discharging. The weight of charge of each retort is 15 cwt., which is put into each every 24 hours, the time required to work it off. Inside the retort is placed a perforated tube, 2 ft. 4 in. diameter, leaving a space of 14 in. at the bottom, which admits of a layer of coal 8 in. deep all round the heated surface. This tube, or cage, is introduced in order that the coal may be equally heated throughout, because if the heat be strong on one side of the charge and weak on another the former will produce permanent gas and tarry matter, while the latter has, perhaps, too low a temperature to produce oils at all. The retorts being charged with the coal, the doors are luted with Irish lime, and screwed up tight. The retort is kept at a dull-red heat, not exceeding 800°*F.*, which is of the utmost importance to the manufacture, as if it exceeds that temperature a different series of bodies is formed, such as benzole, naphthalin, carbolic acid, &c., which are considered impurities by the coal-oil manufacturer. Generally speaking, the higher the heat the heavier and less profitable the oils, a large portion of the hydrogen being carried off in the shape of carburetted gases. The exit or discharge pipe opens outwards from the back of the retort, and dips into the condenser, which is a chamber 4 ft. broad and 20 in. deep. Extending along the whole range of retorts. Over the trough in which the gases condense about 5 in. of water is allowed to lie, in order that the vapours may be more readily assume the liquid form, because it may be laid down as a general rule that the sooner the lighter vapours are condensed the greater will be the yield of oil. Above this chamber is an extra condenser, of thin malleable iron, 24 in. diameter. After the coal has been in the retort for a few hours ammonia water begins to distil off; after that comes the crude oil, which increases in specific gravity as the distillation proceeds. After the mineral has been in the retorts for 24 hours the coke is withdrawn by the bottom door, and used for firing off the next charge. The crude oil is run into a receiving tank, and the permanent gas is conveyed to a gas-holder, to be afterwards used for firing the boilers, or lighting up the works.

The crude oil is now heated up with steam in the receiving tank, and the ammonia water withdrawn from it. This is run into a separate tank, to be converted into sulphate of ammonia. The oil at this stage of the process has a black, greasy appearance, and a pungent, disagreeable smell. As it gives off inflammable vapours at the ordinary atmospheric temperature, great precaution requires to be taken for the prevention of fire at this stage.

The crude oil obtained by distilling the coal, as already described, is subjected to various other processes, under which it yields four different products—naphtha, burning oil, lubricating oil, and paraffin. Before, however, these can be separated the oil must be thoroughly refined. The crude oil is pumped from the receiving tanks into the "once run" stills, of which there are eight, made of cast-iron capable of working 2300 gallons each. These are 10 feet diameter by 7 feet wide, cast in two pieces, with hemispherical tops. The gooseneck for the still is connected with cast-iron pipes, led into a water tank, where the vapours are condensed. After the charge has commenced running a jet of steam is introduced into the still, in order to assist the distillation. This is carried on until nothing but a compact residuum of black, lustrous carbon is left in the still. This coke varies in quantity, according to the kind of crude oil employed, and generally varies from 5 to 10 per cent. by weight of the crude distilled. This residuum forms an excellent coke, and is also ground down and manufactured into moulders' blacking. The condensed product—or, as it is technically called, "once run" oil—is next run into cast-iron tanks, 2 in. thick, where it is agitated for an hour or two, with 3 to 4 per cent. of sulphuric acid, in order to separate the viscous, semi-solid hydrocarbons which are suspended in the lighter oils, and which, from their containing a large percentage of carbon, will not burn in ordinary lamps without producing a large quantity of smoke. There are eight stirring tanks, 7 ft. diameter, 8 ft. deep, with concave bottom, to assist the drawing off of tarry matter thrown down by the reagents. A step is bolted to the bottom, for resting the agitator, which resembles a screw in form, and is driven at a high speed from a shaft running along the top of the refinery. A tube, terminating at the top in an umbrella-shaped plate of cast-iron, encircles the screw. The agitator being put in gear, revolves with great rapidity, sending the oil and vitriol up the tube, which is sent down the sides over the iron plate. The agitator (which is very complete) having been continued for an hour or two, the oil is allowed to settle, when the vitriol tar, containing the organic impurities, by reason of their greater weight, sinks to the bottom of the tank, and is drawn off and burned under the stills as a saving of fuel, and also for evaporating the waste water from the different parts of the work. The oil is now of a pale green colour, and is agitated for 15 minutes with water, after which it is treated with 2 to 3 per cent. of caustic soda, 70°*F.*, and again subjected to agitation. The soda neutralises any sulphuric acid that may remain in the oil, and rids it of impurities that were not affected by the vitriol. The oil is then distilled a second time in wrought-iron cylindrical stills, having a capacity of 6000 gallons. When it has reached a certain specific gravity the remainder, or heavy portion, is run into coolers, in order to allow the paraffin to crystallise out. The first part of the distillate is again treated with sulphuric acid and caustic soda, and re-distilled. The oils which come over are separated by fractional distillations. Naphtha is the first product taken off, for the separation of which only a gentle heat is required. The oil next taken off is burning oil, which generally has a specific gravity of 816°. This is again treated with vitriol and caustic soda, in order to reduce the harsh smell which oil fresh from the still always has, and is now ready for the market. The heavy or latter portion of the distillation is run into shallow tanks, and allowed to cool. The heavy oil and paraffin is then filled into strong canvas bags, and these are placed in hydraulic drum presses, and squeezed at the rate of 25 cwt. to the square inch which presses the oil through the texture of the bags. This takes place in the paraffin-house, which in these works is a large commodious building 150 ft. long by 20 ft. wide, one of the best for the purpose we have seen in any oil work, both in respect of size and apparatus. It is furnished with one of Kirk's 30-cwt. patent freezing machines, two of Southy's coolers, two bagging presses, with 4-inch pistons, worked to 25 cwt. per square inch, and four large presses (10 in. piston) worked to 2 tons pressure for second pressing in sheets. The crude paraffin is again laid in sheets, and further pressed in the four large presses mentioned above (10 in. piston), when it is a greenish scale, and ready to be filled into casks for sending out. The oil expressed is called blue oil, from which lubricating oil is made. These works turn out about 30 tons of scale per month. The quantity of burning oil made monthly is upwards of 50,000 gallons, and the crude used 130,000 gallons. The number of men employed is about 90, requiring in money upwards of 100*l.* weekly.

MINING GLOSSARY.—The third edition of the Glossary of Mining and Smelting Terms has now been printed, and contains carefully compiled lists of the technical terms used in the mines of Cornwall, Derbyshire, South Staffordshire, Newcastle, and Spain; and of the smelting terms used in France and Germany. The book, which will

be found extremely valuable to those interested in mines desiring thoroughly to comprehend the agents' reports, will be forwarded from the *Mining Journal* office, 26, Fleet-street, E.C., on receipt of 2*s.* or may be obtained, by order, through any bookseller or newsagent.

COAL MARKET.—There has been a very small quantity for sale during the week, only 47 fresh ships having come forward. The very stormy weather during the whole week on the east coast has caused much loss of shipping and many crews, also the laden vessels have for many days been shut up in the harbours by the heavy sea on the bars. All these adverse circumstances produced a rise in prices each market to-day, and they close at an advance altogether of 2*s.* 6*d.* per ton. Hetton Wallsend, 2*s.* 6*d.*; Lambton Wallsend, 2*s.*; Hetton Lyons Wallsend, 2*s.* Unsold, 1 cargo; 10 ships at sea.

EAST WHEAL LOVELL—SPECIAL REPORT.

Dec. 11.—The following is my report on East Lovell Mine, which, in accordance with your instructions, I have inspected to-day.—FAT WAT Part: The lode in the skip shaft is down 3 fms. below the 90 ft. level; it is 10 feet wide, and worth 12*l.* per fathom for tin. The wine sinking in the bottom of the 80 ft. level, 10 fms. west of skip-shaft, is worth 30*l.* per fathom for tin. These two are the only large veins now working in this part of the mine.—TREGONBRIS: A 50-inch cylinder engine has recently been erected on this part of the set, and the shaft cleared 42 fms. below surface, or 22 fathoms below the adit. The former workers drove the end at this 22 fms. level about 25 fms. on the north part the lode, which has now been cut into south, where it is found to be 5 feet wide, and worth from 40*l.* to 50*l.* per fathom for tin. This part of the mine seems to be opening up well, and I have not very little doubt that a good and paying mine will be opened up here. I last inspected East Lovell some time about March last, and I am pleased to observe the considerable improvement which has taken place in the lode in the Fat Wat shaft since then, and judging from the appearances of the lode, I think the chances are in favour of its showing a still further improvement shortly. The prospects of the mine altogether are materially enhanced lately, and the new part (Tregonbris) is a most promising feature for the shareholders.—WILLIAM ROWE.

PERRAN CONSOLS.—The 60-inch pumping-engine, erected on this mine by Messrs. Michell and Jenkin, was set to work on Friday last, and called Hallett's engine. This spirited company of adventurers (only about 30 in number), residing chiefly in London, have expended between 10,000*l.* and 11,000*l.* in developing the set, and have sold about 12,000*l.* worth of tin in three years, besides having about 7000*l.* worth of tin in reserve. There can be but little doubt now that they will soon be rewarded for their perseverance in having a dividend mine. The mine is situated in the midst of the sand-hills, and about a mile and a half from Perranporth.

BY
LETTERS



ROYAL
PATENT

THOS. BORLASE'S PATENT METALLIC ORE-DRESSING MACHINE.

ADVANTAGES.

GREAT SIMPLICITY AND ECONOMY OF CONSTRUCTION and operation. The stuff is taken direct from the stamps. Nine-tenths of the tin or other mineral treated is saved at the first washing. The superintendence and attention required is the least possible. The motive power necessary is very trifling. **LEAD ORE.**—Four-fifths will be made fit for the market by one washing. **TIN ORES.**—Four-fifths are cleaned into whits with one washing. Dressing floors can be laid out in shorter time and much more economically than with ordinary appliances. Upwards of five-sixths of the labour cost for dressing is saved.

EXTRACTS FROM TESTIMONIALS.

From Captain RICHARD BLIGHT, Creaghawse and Penkevil United Mines, near Chacewater, February 19, 1872:—
I have seen the tin-dressing machine at work at North Roskear Mine, and fearlessly say it is the best machine I ever saw. I do not hesitate to say it saves nine-tenths of the tin directly it passes over it, and eight-tenths of the tin is saved into whits at once.

From Capt. JOHN OLD, Breage, February 22, 1872:—
I have inspected Borlase's patent revolving metallic ore-dressing machine at North Roskear Mine, and am pleased to say that I have a very high opinion of it as a complete separator. I tried the roughs and slimes after it left the separator, and found it to be very poor. This testing of the machine was very satisfactory to me, and I can with confidence recommend it.

From Capt. RICHARD PEARCE, Dolcoath, March 2, 1872:—
I have seen your machine for dressing tin ore working at North Roskear, and am pleased with the simplicity of its working, and it seems to separate its work very well.

From Capt. ANTHONY JOHNS, North Roskear, March 4, 1872:—
I have worked your dressing machine, and I find it will do its work as a separator and cleaner admirably. The whits for burning are very good, and the roughs which pass over it are very poor. I have great confidence in recommending it, as it saves much manual labour.

From Capt. JOHN REYNOLDS, Cook's Kitchen, March 4, 1872:—
I called at North Roskear Mine to-day, and saw your new tin-dressing machine at work. I vanned the different divisions of roughs and slime as classified by the machine, and found them highly satisfactory. I believe it to be the foundation of a method for dressing tin which must, sooner or later, come into general use.

THE MACHINE CAN BE SEEN AT WORK AT NORTH ROSKEAR MINE, CAMBORNE, and all further particulars may be obtained on application to—

TUCKINGMILL FOUNDRY COMPANY, CAMBORNE, CORNWALL.

The SOLE MANUFACTURERS OF BORLASE'S IMPROVED PATENT PULVERISERS AND ORE DRESSING MACHINES, to whom all orders must be sent.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Dec. 9—	Minera	8	£14 9 0	Sims, Williams, & Co.
10—	Rookhope	30	13 11 0	P. Glover.
17—	Foxdale	100	22 6 0	A. Eytan.
—	Bwlch Consols	20	16 18 0	Sheldons, Bush, & Co.
18—	Old Treburget	20	28 9 0	ditto
—	ditto	5	15 3 6	Sims, Williams, & Co.
19—	Roman Gravel	87½	15 1 0	Father Lead Company.
—	ditto	47	15 15 0	Burry Port Company.
—	Van	235	15 10 0	ditto
—	ditto	94	15 5 0	ditto
—	ditto	47	15 7 6	Burry Port Company.
—	ditto	47	15 8 6	ditto
20—	Tankerville	100	15 3 6	A. Eytan.
—	Great Laxey	100	24 10 0	Trefry's Estate.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Dec. 19—	Van	150	£2 18 0	Dillwyn and Co.

BLACK TIN.

Date.	Mines.	Tons c. q. lb.	Price p. ton.	Amount.	Purchasers.
Dec. 14—	West Godolphin.	5 7 2 9	£20 5 0	£431 13 0	Bolton.
18—	So. Condurrow	13 13 0 5	80 5 0	1095 11 6	ditto
—	Furze Hill	4 18 2 6	83 5 0	—	—

COPPER ORES.

Sampled Dec. 3, and sold at the Royal Hotel, Truro, Dec. 19.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols.	113	£4 6 0	Marke Valley	24	£11 11 0
ditto	108	1 1 0	Hingston Down	87	3 2 6
ditto	98	1 8 6	ditto	72	3 4 6
ditto	97	1 8 6	ditto	71	3 10 6
ditto	98	7 3 6	ditto	70	2 18 0
ditto	95	1 5 6	Gawton	102	2 3 6
ditto	91	1 19 6	ditto	85	2 10 6
ditto	81	1 11 6	ditto	81	2 16 6
ditto	79	6 14 6	ditto	27	4 9 6
ditto	73	3 12 6	Glasgow Caradon	78	5 14 0
ditto	67	2 5 6	ditto	73	6 18 6
ditto	66	1 2 6	ditto	69	8 0 6
ditto	62	5 9 6	ditto	20	4 10 6
ditto	19	2 10 0	East Caradon	66	5 14 6
ditto	5	13 0 0	ditto	60	5 10 6
South Caradon	91	6 4 6	ditto	61	5 8 6
ditto	87	9 1 6	ditto	65	2 17 6
ditto	69	12 5 6	Phenix	63	4 15 6
ditto	60	11 8 6	ditto	64	7 17 6
ditto	49	10 14 6	ditto	42	2 6 0
ditto	40	6 6 6	Prince of Wales	60	5 0 6
ditto	37	10 6 6	ditto	58	6 3 6
ditto	36	5 19 0	Bedford United	60	5 13 6
Marke Valley	93	3 11 6	ditto	60	2 19 6
ditto	83	3 6 6	Craddock Moor	72	7 2 6
ditto	45	4 6 6	ditto	29	5 7 6
ditto	41	3 11 0	Belstone	60	7 19 6
ditto	40	1 7 0	ditto	13	1 11 0
ditto	25	3 3 0			

TOTAL PRODUCE.

Devon Consols	1130	£3523 18 6	East Caradon	195	£1036 10 0
South Caradon	429	3872 10 0	Phenix	181	784 9 6
Marke Valley	300	1115 11 0	Prince of Wales	113	601 13 0
Hingston Down	300	950 7 0	Bedford United	110	548 5 0
Gawton Copper	265	789 15 6	Craddock Moor	94	440 9 0
Glasgow Caradon	240	1587 1 0	Belstone	34	187 13 6

NO SALE on Thursday next, December 26.

MINING NOTABILIA.

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

FROM W. H. RULE, Camborne, Cornwall, Dec. 19: The market for mine shares during the week has been very active, with a moderate amount of business going forward, but a slight reaction has set in to-day, and prices generally are a trifle weaker. Carn Brea, 148 to 150; at the account meeting, held yesterday, a dividend of 4s. per 1000th share was declared, and a credit balance carried forward of 5427.5s. 2d. Cook's Kitchen, 27 to 28; Dolcoath, 66 to 67; East Basset, 33 to 34; New Cook's Kitchen advanced to 23½; New Rosewarne, 4 to 5; North Rosewarne, very quiet, 20 to 22; Rosewall Hill, 38s. to 40s.; South Carn Brea, 4½ to 4¾; South Crofty, 60 to 65; South Frances, 18 to 20. Considerable fluctuations have taken place in these shares during the week, and prices after reaching 23 yesterday closed to-day at the present quotations. Tinocort, 54 to 56; at the usual quarterly account, on Wednesday, a dividend of 1s. 18s. per 6000th share was declared. West Basset, 9½ to 10; West Frances in good demand at 15½, but no sellers under 17; Wheal Osborne enquired for at 5½. Wheal Seton, 38 to 40; for some time past the management of this mine has been far from satisfactory, and at the account meeting, held on Monday, amidst much confusion, it was resolved—"That the present executive, including the purser, manager, under agents, and all other agents be dispensed with. That the management and pursership of the mine be offered to Capt. W. Teague, of Tinocort, Carn Brea, and other mines, and a deputation, consisting of Messrs. Tregoning, R. Thomas, and Angove, be appointed to wait on him to receive his reply." The meeting was a very hot one, and was rendered rather more disorderly than it would otherwise have been by the presence of a certain learned gentleman who had not the least interest in the mine, and in the opinion of those present had not the least right there. In accordance with the above resolution, the deputation appointed took the earliest opportunity of waiting on Capt. Teague, and that gentleman has kindly consented to undertake the management of the concern. Shareholders may, therefore, expect to see their property ere long in a much better condition, and the price of shares much higher. West Seton declined, 60 to 55; Wheal Uny quiet, 4½ to 5.

GORSELD AND CELYN LEVEL.—We are pleased to notice the valuable discovery made in this mine.

DERBYSHIRE CONSOLIDATED.—A special inspection of this property was made last week; results highly satisfactory. It is expected good returns of lead ore will be made early next year.

FURZE HILL (Tin).—This mine sold on Dec. 14, to the Calenick smelting Company, 4 tons 18 cwt. 2 qrs. 1 lb. of tin ore, at 53s. 6s. per ton, realising 493s. 7s. 4d., being the produce of seven heads of water-stamps for eight weeks ending Nov. 30. More stamps are being erected as rapidly as possible so as to increase the returns from the tin ground already laid open, and which is valued at 6000s. on one lode only. In a very short time the worth of this mine will be established by the returns of tin ore. All the machinery for pumping, stamping, and drawing is driven by water-power, and this mine will prove to be one of the prizes of 1873.

PERRAS CONSOLS.—The 60-in. pumping engine recently erected by Messrs. Michell and Jenkins, the engineers of the company, was set to work on Friday by Mr. W. Michell, and named by the purser, Mr. J. Johns. "Hallett's engine," in honour of Mr. Hallett, of London, one of the largest shareholders. The old engine, which has been used both for pumping and stamping, will now be used exclusively for stamping. Sixteen new stamps-heads are to be erected, and the agents state that when this is done they will be able to more than double their present returns. This mine, formerly known as Wheal Vlow, is situated in the midst of the sand hills, a few hundred yards from the sea, and about 1½ mile from Ferranorth.

NORTH TRELEIGH WOOD.—Satisfactory progress is being made, and the indications lead the manager to believe that something of importance will be met with in the copper lode. Mr. Edwards, C.E., one of the vendors, has joined the direction.

CARN BREA.—At the quarterly meeting on Wednesday, Captain W. Teague in the chair, a dividend of 4s. per share was made. The reports were of a most encouraging and highly satisfactory nature.

NEW ROSEWARNE.—It may be satisfactory to the body of shareholders in this company to learn that the mine has been specially inspected this week by one of the agents of Carn Camborne; and his report, under date Dec. 19, has been forwarded to us by a shareholder. Of late the shares have been very much depreciated in market value, and accidents and misfortunes have attended the progress of the works through the late gales and severe storms. The report in question, however, states that the mine is as good as ever, and will, in this agent's opinion, as soon as there is proper machinery for winding and increased power for stamping, give large and continuous dividends. He values the points in operation on the tin at 158s. per fathom; and after reviewing every point in detail, concludes, "The rain and the storms have been against it, but the damage done from the storms is all put right again, and the breakage is repaired, and a good batch of tin prepared for market, also a good parcel of copper ore. As there is any amount of tinstuff already broken underground, the company cannot be too quick in getting to work a steam winding machine. And as there are thousands of tons of tin stuff already prepared for stamping, and on the surface, the company, if they would have immediate dividends, will not delay to increase their stamping power, for I see no reason why 8 tons of tin cannot be put to market every week—that is, with increased facilities for stamping." With the present two pairs of stamps the agent of this mine estimated his returns at 15 tons per month.

LIANARCON.—Capt A. Ede (Dec. 18) reports—"The ground in the engine-shaft, sinking below the 66 ft. level, has become harder, and it is, therefore, thought advisable to put on more men, in order to expedite the work. There are now 12 men engaged sinking at 18s. per fathom, and the work is being pushed forward as fast as possible. The lode at flat-roof shaft continues to look well. We have set a bargain to two men to drive east to meet those men working on the tin ore, for the purpose of ventilating the mine, and also for making it more convenient for getting the work away, as well as for proving the ground. Distance to drive, 8 fms.

WEST WHEAL GORLAND (St. Day).—There is an improvement in this mine. Capt. J. Mayne, the manager, has issued a special circular to the shareholders, which says:—"I have much pleasure in informing you that we have an improvement in the 42 ft. level east, on the south lode, where it is now worth for tin and copper 80s. per fathom. Three stops working in the back of this level, west of shaft, are worth in the aggregate 40s. per fathom. The 32 ft. level, east of this lode, is worth 8s. per fathom. The 42 driving west, on the north lode, is producing good stones of grey copper ore—a kindly end. The 20 driving east, on this lode, is worth 80s. per fathom."

SOUTH ADORRA.—The shareholders are greatly indebted to Mr. T. G. Taylor for having brought about such a satisfactory arrangement with the Eberhardt Company for the employment of the Stanford Mill.

FOREIGN MINES.

MAMMOTH COPPERPOLIS OF UTAH.—The directors have declared a dividend at the rate of 10s. per cent. for the quarter ending September 29, payable on January 2.

CAMP FLOYD (Silver).—E. B. Wilder, Nov. 20: I have no change in the mine to communicate. I am pushing No. 3 shaft as fast as possible, also the Incline No. 1, with the view of striking higher grade ore than we are now working; pulp assays running 430, 425, and 420. The mill is running only by day, as we have no water to run at night. Walker's mill has stopped entirely; the extreme cold weather we have, in connection with the past dry weather, the cause. The snow storm we have helped us very much, of which I telegraphed "water increasing," but the snow has gone, and we must get along the best way until another storm. The result is we shall be able to run enough to meet our monthly expenses for mill and mine. We are now owing Wells Fargo some \$15,000, and November pay day near we have telegraphed you this day.

ANGLO-ARGENTINE.—Mr. W. J. Holman's report for September: In the reduction department the general work has been carried on throughout the month without intermission. The total quantity of ore treated was 1050 tons, and the produce obtained therefrom amounts to 534 ozs. 12 dwts. 1 gr. of bar gold (gold and silver); produce per ton of ore stamped, 10 dwts. 43 grs. Masons are still engaged on work connected with stone-breakers, which I hope will be completed about the end of October. All our stock of iron bushings for stamps-guides being exhausted, I have had some wood ones made, which answer equally as well as iron, and our carpenters have been engaged at that work. In the mine I have not anything new to communicate, the principal points of which continue to yield good quality ore. Forces has not been equal to our requirements. The general health is favourable.—N.B. The third 12 heads of stamps are not yet at work, owing to the non-arrival of the stamps blanketing.

BENSBERG (Lead Mining and Smelting).—J. W. Hoffman, Dec. 14: The work done this week comprises:—Cutting a road for tramway into the open-cast, tarring the roofs of all the sheds, pointing the brickwork of boiler-house, boarding roof of dressing-floors, getting ore, moving surface, and dressing. We have not sufficient rails to lay a line to the banks, and shall have to get a few here. We got 20 tons carbonate of 40 per cent. average assay from the open-cast, and wash ore as how fast the water would rise in the shaft without pumping, and the result was that it rose 9 ft. in 1½ hour. During the interval we cleaned the boiler, and repaired some steam-cooks. From the machine makers I am advised that the rollers are ready for delivery. We have sent our weigher and sampler to Stolberg to weigh and sample our last delivery. This week we commence delivering for December. Coal is very scarce, and rising in price. The mine from which we took our supply being interrupted in working we had to take what we could get at the station, and send to Mulheim and Dents for carriages. Week's production of ore—30 tons; average assay of same, 40 per cent. week's production of galena, 15 tons; average assay 100 per cent; stock of ore on hand ready for delivery 40 tons.

[For remainder of Foreign Mines, see to-day's Supplement.]

POWELL'S LANTWIT COLLIERIES.—At a special meeting, yesterday, it was agreed to allow interest on calls paid in advance at the same rate as the dividend, instead of at 5 per cent., as prescribed by the Articles.

SWANPOOL SMELTING-WORKS.—During the past week or two men have been engaged putting in order the smelting-works erected some years since at Swanpool (Pennance Point), near Falmouth, by Mr. Darlington, and which have been for a considerable period idle. The works are said to be again set going by a company of wealthy Glasgow merchants.

LONDON GENERAL OMNIBUS COMPANY.—Traffic returns for the week ending Dec. 15, 1872, 19s. 3d.

HOLLOWAY'S PILLS.—Decline arrested.—Wherever weakness exists in the human body the chances are it will be developed by winter. Chest complaints are especially liable to intrude unless early symptoms be met and checked. No more lamentable sight presents itself than the daily sinking of the young through consumption. At the very outset of this disease these pills are much effective in purifying the blood, preventing its stagnation in the lungs, and removing the hacking cough. Holloway's pills should be taken on the first warning of constitutional derangement. Their invigorating properties will soon re-establish tone and regularity throughout the system, amend the digestion, regulate the liver, and rouse the kidneys and bowels to natural and salubrious action.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—Simon T. Dec. 18: In the end which we are driving eastward from the rise, at the back of the deep adit level, the lode is 4 ft. thick, and is worth 1½ ton of lead per fathom. From what I see at present I have every reason to believe we shall open out a valuable piece of lead ground between the winze, which has been sunk below the No. 2 adit, and the rise that has been put up from the deep adit, from which we are now driving eastward, to communicate with the winze. No. 2 adit is driving eastward from the rise, and 4 fms. east of the winze lode is 6 ft. wide, and is worth 1½ ton of lead per fathom. On the east side of the sett we have not cleared through the choke yet. We shall finish bringing up the level to take off the water from the water-wheel, to drive the round buddles, next week.

ABERYSTWYTH (Silver-Lode).—J. Trevelthick, Dec. 16: We are now in regular course of sinking the Penrhin engine-shaft, and in a strong lode, full 6 ft. wide; from its appearance we fully expect great improvements as we deepen, and eventually open out a fine mine. The winze sinking under the 36, west of Penrhin shaft, will be down the required depth (10 fathoms) by our next setting-day; from the commencement to the present depth the lode has averaged from 15 to 20 cwt. per fathom. At the 40, east of Bwlch Gwyn engine-shaft, the lode is 5 ft. wide, and so thickly impregnated with prills of lead ore that we save it for dressing. I calculate on further improvements every fathom we drive, and if such be the case we may reasonably anticipate having a profitable piece of ore ground, as in the level above (though a little in advance) 50 tons per month had been broken and sold therefrom. The parcel of ore, about 50 tons, sold on the 10th inst., realised 14s. 6d. per ton. Our mines throughout are in thorough working order, and the same observation may apply to the machinery.

ALLET-Y-GRIB.—J. Clift, Dec. 18: I shall sample for sale of ore before the end of this week. With the exception of a great improvement in No. 1 stop, in the 40 west, there is little change to report in any part of the mine. The end of the 40 west is now showing lead, and the indications at the caunter are also very promising. The sinking of shaft is progressing favourably.

ASSHETON.—M. Whitford, W. Tipton, Dec. 17: In the 30, west of Maur shaft, the lode is 1½ ft. wide, composed of quartz, blende, and occasional stones of lead, but not sufficient to value. A stoppage east of No. 2 winze, and the end east of cross cut, will yield in the aggregate 4 tons of lead per fathom; this bunch from its appearance is continuing east, and below the 30. We have commenced a cross-cut, in order to intersect the south part of the lode; this will greatly facilitate the opening out of this piece of ground, as we have a winze down 4½ fms. below the 20, 10 fms. east of the point of horse, where the lode will yield over 25 cwt. of lead per fathom, which is being urged on with all speed. A stoppage in the back of the 8 will produce from 2½ to 3 tons of lead per fathom. We have commenced a winze in bottom of 20, west of No. 2 winze, which is down about 10 ft.; no lode has been taken down, therefore we cannot say as to its value.—Brown's Shaft: Satisfactory progress is being made; lode 1½ ft. wide, composed of quartz, and a little lead and blende, but not sufficient to value. In the 20, east of Brown's shaft, on the south part of the lode, this being in new ground, we are pleased to say that the lode has a very promising appearance, and will yield 12 cwt. of lead per fathom. A stoppage in the back of the 20, west of Brown's shaft, will yield 10 cwt. of lead per fathom.

On seeing the continuation of the bunch of lead going down in the bottom of the 20 we shall commence with the necessary preparations for the sinking of Maur shaft with all speed. The sinking of this shaft is very satisfactory, and we shall have against the day of sampling, two months from last sampling, 60 tons of lead ore or over. The rods and pitwork are working well. Margett's engine keeps the stuff clear by drawing one shift a day. The tramroad from Maur shaft to the crusher-house and dressing floors will be near its completion by the end of the week; this being completed will do away with a considerable amount of carriage.

BAMPTFYLDE.—S. Mitchell, Dec. 17: Everything in the copper mine is going on satisfactorily, rather improved than otherwise; the iron lodes never looked better—we are ready now to raise any quantity of it. The crusher and all other machinery throughout the mine are working well, and the water-wheel keeps the water with ease.

BEDFORD UNITED.—Wm. Phillips, Dec. 19: The lode in the rise in the back of the 115 east is worth 4 tons of ore per fathom. We are still driving north from this level to intersect the north part of the lode. Driving by the side of the lode is continued in the 115 west. The lode in the winze in the 103 east is further improved, now worth from 3 to 4 tons of ore per fathom, and is looking very promising. There are 10 fms. of lode in the 103 west. We are rising against the winze from the 75 east, and hope to communicate in the course of a few days, when good ventilation will be obtained for the 90 east, and some ore ground will be made available for stoping.

BELSTONE.—James Neill, Dec. 16: The pay and settings on Saturday last passed off satisfactorily. A shaft sunk this week, 1 ft. 9 in.; there is no change to notice in the character of the ground since my last report. The shaft having now been sunk a sufficient depth below the 50, I set to the shaftmen (nine in number), on Saturday last, a bargain to take out at the 50 ft. level a trip plat, to fix skip road, case and divide shaft, and fix footway from the 50 to the 60 ft. levels, also to remove 10 fms. of the present sinking-lift, put in bearers for eastern, and fix a 10-ft. lift of 16-in. pumps, with main-rods, stays, and all other attachments belonging thereto, complete, which will take them about two months to accomplish, after which the sinking will be resumed by nine men, and forced down with all speed to the required depth for a 70 ft. level cross-cut to the main and north lodes.—Main Lode: The cross-cut north, at the intermediate level west, to be driven by one man and boy, stented the month at 8 ft. per fathom; lode chiefly composed of capel, quartz, garnet, and chlorite, and producing good nests of black ore. The cross-cut south, at the intermediate level east, to be driven by four men, stented the month at 10 ft. per fathom; the lode at this point is composed of capel, quartz, and garnet, with stones of yellow copper ore intermixed. The two stops working from the rise in back of this level are still yielding copper ore of good quality, and looking well. The 40 ft. level east, on the north part of the lode, to be driven by four men, stented the month at 8 ft.; the lode at this point is very good. There are 10 fms. of lode between the 40 ft. level and the 50 ft. level, and the part of the lode proved to be more than 20 fms. in length; this is below where very productive ground was met with at the 30, on the north part of the lode; therefore I expect to meet with and open out profitable ground for stoping at this level; the character of the ground at present indicates it. The stopes in the back of the 40, on the south part of the lode, are without any change to notice.

BLAEN CAELAN.—W. H. Tregoning, Dec. 19: Each of the cross-cuts (three in number) which we are driving from the south side of the 20, east of engine-shaft, are without the slightest change; they are proving, with more or less regularity, the usual quality of tin. In the lode between the 20 and the 30, south of the cross-cut north of the 20 west is also without change, in fact none is expected until we have driven 3 or 4 fathoms, and intersect the north lode. The cross-cut north from adit, east of shaft, is improved; the end contains branches of lode stuff, and every indication of the lode being closely in advance. We are preparing to sink a winze in the bottom of the 20 east near its extreme end, to prove the lode 10 fathoms deeper.

BOG.—W. Harris, Dec. 18: Engine-Shaft: The water is now forked 13 ft. below the 120 ft. shaft appears to be in a tolerable sound condition; wherever it is damaged we shall repair as the water is deepened. The machinery is at present in good working order, and there is every prospect of good progress being made by next report. The 130 has been cleared and secured east of shaft 20 fms. We shall continue clearing both east and west, and have no doubt in doing so shall lay open some good ground for tribute pitches. No other change to report in the tribute department. Next Friday being setting-day a full report shall appear next week. We have sampled 25 tons of lead ore and 50 tons of blende, for sale on the 28th inst.

BROSELYD.—John Davis, Dec. 18: There is no change worthy of notice since my last week's report. The machinery is in good order.

BRYNAMBOR.—G. Spargo, Dec. 18: Since my last report the lode in engine-shaft, sinking below the 22 ft. level, continues to gradually improve. On Saturday last I forwarded to the office a stone of lead broken from the then deepest part of the shaft, and from its very favourable appearance, combined with the lode becoming more large and porous, I consider the indications more than ordinary of a rich lode being near at hand. The shaft is now sunk below the 22 ft. level, and is ready now to take out at the 50 ft. level a trip plat, to fix skip road, case and divide shaft, and fix footway from the 50 to the 60 ft. levels, also to remove 10 fms. of the present sinking-lift, put in bearers for eastern, and fix a 10-ft. lift of 16-in. pumps, with main-rods, stays, and all other attachments belonging thereto, complete, which will take them about two months to accomplish, after which the sinking will be resumed by nine men, and forced down with all speed to the required depth for a 70 ft. level cross-cut to the main and north lodes.—Main Lode: The cross-cut north, at the intermediate level west, to be driven by one man and boy, stented the month at 8 ft. per fathom; lode chiefly composed of capel, quartz, garnet, and chlorite, and producing good nests of black ore. The cross-cut south, at the intermediate level east, to be driven by four men, stented the month at 10 ft. per fathom; the lode at this point is composed of capel, quartz, and garnet, with stones of yellow copper ore intermixed. The two stops working from the rise in back of this level are still yielding copper ore of good quality, and looking well. The 40 ft. level east, on the north part of the lode, to be driven by four men, stented the month at 8 ft.; the lode at this point is very good. There are 10 fms. of lode between the 40 ft. level and the 50 ft. level, and the part of the lode proved to be more than 20 fms. in length; this is below where very productive ground was met with at the 30, on the north part of the lode; therefore I expect to meet with and open out profitable ground for stoping at this level; the character of the ground at present indicates it. The stopes in the back of the 40, on the south part of the lode, are without any change to notice.

BRYNN.—S. Trudgeon, Dec. 9: When we started on the elvan course it would yield about 2 lbs. of tin to the ton of stuff; it now produces 4 lbs. 6 ozs. to the ton. The shaftmen have been clearing up the level; since cutting through the lode they have found some splendid stones of tin. The shaft is sunk 3 ft. by 6 ft., is down to level and timbered. In the drive east from the shaft we have a good branch of tin, which is continuous for 40 fms. east, which is the great point we first aimed at, from which great rocks of tin have been taken. We are making good headway in stoping the tin also east of the shaft. In the western stopes the men are putting in their stulls for the deads, so that they may get the tin as clean as possible by sending the branches of tin only to the stamps. We have driven about 50 fms. east of the shaft, and the breast in the end is looking well, and the samples I have attested correspond from the stamps. Our sale of tin shortly will, I am quite sure, prove satisfactory, confirming the accuracy of my judgment. Looking at the extensive area of tin ground, and the length we have now in which produces tin throughout, the shareholders have nothing to fear. We have also discovered another elvan course, besides three splendid tin lodes, and an iron lode also traverses the sett. From the tin we are returning, together with the numerous lodes in the property, I am convinced that the Brynn is without exception the best and most profitable mine in the district.

—S. Trudgeon, Dec. 14: We have arranged 24 heads of stamps to work on the elvan course, and another 12 heads on the rich branches of tin coming from the stopes, which is producing some splendid tin; the elvan course is yielding about the usual quality of tin. At present we are only carrying a narrow portion of the elvan course, in order to get a head faster, where we believe we shall have stronger branches of tin. The shaftmen are taking up the water adjacent to the level, in order that they may be enabled to sink below the level; it is intended to commence the sinking on Monday next. The mine is looking very satisfactory, and the machinery working admirably.

BWADRAIN CONSOLS.—R. Northey, Dec. 14: The lode in the new shaft, sinking below the 55, for the width carried (6 ft.) is worth 30 cwt. of lead ore per fathom. The lode in the 55, west of new shaft, is much improved, and is now 3½ ft. wide, worth 10 cwt. of lead ore per fathom, and encouraging. The lode in the 35, east of old engine-shaft, is 2½ ft. wide, composed of killas, blende, and spots of lead ore. There is no change to notice in the stopes; they will give on an average throughout the mine about 16 cwt. of lead per fathom. We have 23 tons of lead ore of good quality dressed.

BWLCH CONSOLS.—R. Northey, Dec. 16: We have been very busy timbering and repairing the old engine-shaft from surface to the 40, and we hope to make the timbering and repairs complete to the 60 within a fortnight. The weather has been very much against us in fixing pulley stands, and the other surface work necessary to be done to get the shaft in working order. The stopes in the back of the 60 will yield on an average 13 cwt. of lead ore per fathom, and a stoppage in the back of the 40 will yield 14 cwt. per fathom. The machinery is working well.

CALDBRECK FIELDS.—Philip Hawke, R. Trevelthick, Dec. 13: We have a few tribute pitches yet in operation in the 30, 40, and 60 ft. levels on the great south lode on the coloured ores, which will yield on an average 12 cwt. of lead per fathom. We have three pitches in the back of the 50, on the north and caunter lodes; the yield of blue lead and yellow copper ore from this point is about 10 cwt. per fathom. We have likewise seven pitches in operation in the back and bottom of the 50, or deep adit level, on the north lode, and the product therefrom comprises yellow

copper and blue lead ores, which will average about 16 cwt. per fathom. The yield of blue ore from the tribute pitch in the back of the 20 east, on the caunter lode, at the junction shaft, is 21 cwt. of lead per fathom. The pitch in the bottom of the 10 west, on the north lode, at junction shaft, is worth for blue lead 18 cwt. per fathom. The pitch in the bottom of the 10 east, on the north lode, at junction shaft, is worth for lead and copper ores 17 cwt. per fathom. The pitch on the great south lode in the 10, to the east of junction shaft, is worth for lead 30 cwt. per fathom, or 20% for yellow, peacock, and horse-flesh copper ore 50 cwt. per fathom, or 22½; its total value (42½) is now fully equal to this estimate. We sampled on the 9th inst. (computed) No. 1 parcel of lead 15 tons; No. 2 parcel of lead 31 tons; No. 1 parcel of copper 2 tons 10 cwt.; No. 2 parcel of copper 12 tons 10 cwt.; total, 64 tons of ore, which will realise about 550s.

CAPE CORNWALL.—Richard Pryor, John Davey, Dec. 16: The ground in the 100 cross-cut north of engine-shaft is without much change since last reported on. The lode in the 100 east of cross-cut is a little disordered by the slide, but produces some rich tinstuff. The lode in this level west of cross-cut is 2 ft. wide, yielding rich quality tinstuff; the character of this lode is good, and by all appearances we shall open up some valuable tin ground, and being standing all in whole to surface, and close to the junction of the killas granite, is all that can be desired.

CAPPAGH.—W. Thomas, Dec. 16: The 115 east, east of skip shaft, is worth 20% per fathom. The stopes, as anticipated, have improved since last week. There is no alteration in any other part of the mine since last week. The amount of the December wages has been duly received, and receipts for merchants' bills shall be forwarded in due course.

CASTLE AN DINAS.—S. Symons, Dec. 19: Since my last report we have cut a lode in the new west stop, and have taken from it some of the richest work I ever saw. Attention will be particularly directed to this point, so as to send as large a quantity as possible to the stamps. By this discovery I consider the value of the mine is considerably increased, as there is a continuation of undeveloped ground on its course for hundreds of fathoms.—East Stop: We are taking away the tin ground south of the elvan course, and find the quality quite as good as that taken from the north. Here there is a considerable quantity that can be sent to the stamps at a trifling cost. We have resumed the sinking of the new engine shaft, to do which I have engaged a full party of men, and shall push the work with all possible speed. The stamps are very much out of order, and additional carpenters are employed to thoroughly put them in order. When this is done we shall be in a position to stamp more stuff, the result of which will be a corresponding increase in the returns.

CATHEDRAL.—J. Michell, Dec. 19: We are still continuing to find West Damsel great tin lode, and are daily expecting to intersect the same, when no time will be lost in working it with vigour. Doctor's lode, in the adit end west of Doctor's shaft, is producing some very good work for tin, and I believe on this part of the mine alone we shall have a good discovery very soon.

CEFN BRWYN.—J. Paul, Dec. 17: The 104, east of shaft, is in a strong lode, 6 ft. wide, and worth 1½ ton of lead ore per fathom. In the stopes over this level, 20 fathoms east of shaft, the lode is 8 feet wide, and yields 1 ton of lead ore per fathom. In the stopes over the same level, 5 fathoms east of shaft, the lode is producing 12 cwt. of lead ore per fathom. In the 104, east and west of winze, below the 92, the lode is 6 ft. wide, a strong grey lode, but not so productive as when last reported on; however, we expect from indications it will soon improve again. The lode in the 92 west is of a more promising character, and contains a good mixture of lead and blende ores; we hope to open out some good ore ground here quickly. In the 80 east the lode is 4 ft. wide, spotted throughout with lead and blende ores, and producing saving work. The lode in the stopes over the 80 west is worth on an average 18 cwt. of lead ore per fathom. There is no change of moment in the 56, going east. In the stopes over this level the lode yields 1¼ ton of lead ore per fathom. We hope to sample from 25 to 30 tons of blende in a week or nine days, but the weather is again bad for surface operations.

CRENVER AND WHEAL ABRAHAM UNITED.—Wm. Kitto, Dec. 16: There is no change in any of our tutwork operations since last advised, except in driving the 200 ft. level east, east of Vivian's shaft; the lode has improved, now yielding from 1 to 2 tons of good copper ore per fathom, although not letting out much water yet; we believe this is in connection with the course of ore gone down in the bottom of the 20, and will drain it shortly.—Crenver Shaft: In the 160 ft. level east the lode is 2½ feet wide, improving for tin, and letting out water freely. Our sale of tinstuff last Tuesday, 203 tons 7 cwt., realised 545s. 11s. 6d., being an average of 21s. 12s. 4d. per ton on the mine. Number of men employed: On tutwork, 124 men; on tribute, 27 men and six boys; at surface, 30 men and eight boys; total, 190 men and 14 boys.—[In last week's Journal you have—"We have set a tribute pitch in the bottom of the 190, west of St. George's shaft, to six men and three boys, at 7s. 6d. in 1½, until the end of December;" this should have been 6s. in 1½.]
CLOW HILL.—J. Trevelthick, Dec. 17: The winze sinking under the 35 is 2 ft. wide—a very masterly lode; in fact, everything that can be desired, with the exception of a course of ore, and now producing saving work; it is more ore to-day than it has been since we began to sink it. In the 45 we have cut the south branch; it is only 3 in. wide, spotted with ore, and does not seem to be tending towards the one we drove 9 in. on; under that circumstance, and having such a beautiful looking lode in the winze, I have, therefore, thought it advisable to suspend westward, and have to-day brought the men back to drive east, in order to get under the lode.

CWM ELAN.—W. Goldsworthy, Dec. 14: There is no alteration in the 10, east of the engine-shaft, since my last. The 10, west of engine-shaft, will yield from 8 to 10 cwt. of lead and blende ores per fathom. The lode in the shallow adit level is from 3 to 4 ft. wide, and is producing good stones of blende, but not sufficient to value. No. 1 stop, in the back of the deep adit level, will produce from 10 to 12 cwt. of lead and blende ores per fathom. No. 2 stop, in the back of the same level, will produce fully 1 ton of lead and blende ores per fathom. All other operations are going on as fast as time will permit.

DEERPARK.—J. Bucknell, R. Taylor, Dec. 14: In the engine shaft we have driven the bottom cross cut 6 ft. from last date. In the 30 we have cut through the lode, which is 5 ft. wide, and a very promising one, but not rich for tin. We have assayed a sample which produced 16 lbs. of tin to a ton of stuff. I have set the men to drive west in the lode. The deep adit has been driven a further 4 ft., but no change to notice, we have eight men stoping the lode in back of level. The stamps are working well, and we have sufficient plant erected for the time, and the ground properly arranged to erect further appliances when required.

DERBYSHIRE CONSOLIDATED.—John Pryor, Dec. 19: Phoenix Engine-Shaft: We hope to send down the sinking lift next week, as I am anxious to commence upon the shaft deeper, the indications being so unquestionable. In the 112 yard level east we are advancing in a lode of very fine character, and producing small specimens of silver-lead ore. I expect these will increase as we near the roof of ore not many yards ahead, when we hope to make a splendid discovery. The rise in the roof of this level will soon be communicated to the incline, above which will give us ventilation and open good tribute ground. I shall commence to drive this level west as soon as possible, as we have good objects in view. In the sump below this level we have passed through some exceedingly rich ore; we shall now commence to drive east from the bottom, and to-morrow we shall begin taking down the ore, which I hope will improve as we follow it.—Hill's Shaft: We are driving a cross-cut, and until this lode is reached we cannot expect much. Notwithstanding the fearful wet weather, I have great pleasure in saying that our engine works well, and manage it with ease, and the mine is in fork. Our machinery and pitwork altogether are in capital condition.

EAST BALLEWADDEN.—Thomas Trehair, Dec. 18: Since my last report the men in Morgan's engine-shaft have been progressing most satisfactorily. The carpenters are busy putting in the necessary machinery for dressing the tin. The stamps are working well, and I am glad to say the results of their working are equal to my most sanguine expectations.

EAST BOSCARWELL.—Dec. 18: We have changed the two drawing-lifts between the 80 and 120 to plunger lift, and everything works well; this makes the fourth plunger-lift at work in this shaft below the adit level. The skip shaft has been completed to the back of the 120, and we are now engaged in dropping the sinking-lift in this shaft, and connecting same by wire rope to main rods in the engine-shaft at the 110. We are also clearing the 120, west of engine-shaft, and fixing ladder-rod in winze west of skip shaft between the 110 and 120.

EAST BOTTLE HILL.—J. Eddy, Dec. 19: The rise is not yet communicated with the whim-shaft, but expect to do it shortly. The rise is now fast draining whim-shaft, and shows we are very near the point of holing. We find the dip of the lode in the rise more than expected, judging from the shallow level, consequently we have a little more than the level of the shaft. The work will be completed, when we shall be able to draw through the shaft with the horse-whim, instead of by manual labour, from both shallow and deep adit levels. This will effect a great saving, and when done we shall be able to send great quantities of tinstuff to surface, and shall be able to make regular returns of tin from this lode—the north tin lode. We shall sell our parcel of tin next week.

EAST POLBERRO.—S. A. Pope, W. John, Dec. 17: In the stopes in the back of the adit level west, on the caunter lode, the lode is about 3½ ft. wide, composed of tin, copper, and blende, and from its appearance we expect a good tribute ground daily. The adit level is driving west on the east and west lode; the lode is about 1½ ft. wide, worth for blende 8s. per fathom, and we are looking forward at no distant period to a great improvement. We are now collaring up the western shaft, which we hope to accomplish in a few days, and when completed this will add to our returns.

EAST TRELEIGH WOOD.—L. Tregay, Dec. 19: Prussia L

At present, the cross-cut in the 12, towards the north lode, is still being driven

by four men, and progressing favourably. The adit level is driving east by four men, the lode producing occasional stones of lead ore; this end is about 20 fathoms behind the 12, and we expect it will soon improve. We have commenced a rise by six men in back of the high stop, where there is about 22 fathoms through to surface. The lode here turns out good stones of lead ore; and, as it yielded ore further west close up to surface, we may fairly anticipate opening out some paying ground in rising through, and at the same time ventilate the eastern part of the mine, which is very much wanted. The late storms and deep snow have interfered with the dressing of ore and surface works, but we shall sample 40 tons of ore on Monday next, for sale on the 31st inst.

PLYMOUTH.—John Paul, Dec. 16: The winze below the 12, and in advance of the 24, is sinking by nine men, and down 2 fms.; the lode is worth from 12 to 15 cwt. of lead per fathom. It is started in ground that will have to be stepped away. The 24, coming towards the winze, is still without ore of any consequence. The 12 east has rather improved, and is now worth 18 cwt. of lead ore per fathom. All other points without any change to report. We shall sample 40 tons of lead ore on the 23d, for sale on the 31st inst.

POLKREBO.—James Williams, John Williams, Dec. 16: We are much pleased in being enabled to inform you that the above mine is opening up a very valuable property. Since cutting the lode on the eastern side of the cross-course, at the 17, we have driven about 30 fms. through paying tin ground; the present end worth from 6 to 7 lb. per fathom, now being driven at 3 lb. 10s. per fathom. We are now stopping the bottom of this level near cross-course, lode 3 ft. wide, worth from 60 to 80 lb. per fathom for 1 lb. long, and improving its depth as we go east. **POLKREBO.**—J. Reed, Charles Bottrill, Dec. 19: The engine-shaft has been cut down and secured with strong timber to the 20, where the plat has been enlarged and timbered, and the winch drawing from the same. The 20 is now being cleared, but not sufficiently far to enable us to report on further discoveries being made; another week, however, will throw greater light on these points, and we have little doubt other than with favourable results. Other points of operation continue to open out quite to our satisfaction.

PRINCE OF WALES.—J. Gifford, F. Phillips, Dec. 17: In the 90 west is not looking quite so well for some time past, now worth for tin and copper 6 lb. per fathom—that is, the part carried—the south part is still standing. We shall begin cutting this through to morrow. In the cross cut south good progress is being made. In the 77 east there is no change. In the 77 west we have taken down lode, which is 1½ ft. wide, yielding copper ore, but not to value at present. The same will apply to the 65. We hope soon to see improvements in these ends. In the stopes there is no change. The tribute pitches are a little improved. The men are making good progress in clearing the adit level on the silver lode; the lode is 2 ft. wide, composed of black and white iron, but we are not yet up to the silver ground.

PRINCE OF WALES.—J. Gifford, F. Phillips, Dec. 19: The lode in the 90 west is a little improved for copper since Tuesday. We think it is a little disordered by a cross haul, but is a very promising end.

RESTONQUET TIE STREAM.—Dec. 18: Our bargains were re-set last Saturday. The cross-cut to drive to three men and three boys, at 3 lb. 10s. per fathom. The No. 1 fm. level end to drive north, to four men, at 1 lb. 10s. per fathom; the stop of gravel is 2 ft. in this. The No. 2 fm. level end to drive north, to six men, at 1 lb. 10s. per fathom. The men have been engaged since Monday putting in tramroad, but will resume driving to-day; the stop of gravel is about the same as in No. 1 level. The air level, to drive to four men, at 1 lb. 8s. per fathom. We have 20 fms. to drive to communicate to the No. 2 level; the stop of gravel is 2 ft. 6 in. thick.

ROMAN GRAVELS.—A. Waters, Dec. 19: We have fixed plunger bottom and reared up the column to the 65, which is as far as we can go until the 10 in drawing lift at that level is removed. We shall now go on with putting down main rods (six pieces together, 42 ft. long) and hope next week to have the fixing completed. You will understand that we are proceeding with the above work without hindrance to any part of the mine, or to the winding of ore from all points above the 95, or bottom level. The 80, south on Roman, as well as the 65, south of Corfield's shaft, is in a wide rich course of ore, with every prospect of a continuance of the same. All our stopes and bargains are yielding their usual quantities of ore. The surface work proceeds fairly considering the bad weather we have. The 175 tons of lead ore sold to-day at 15s. 1s. per ton, realising 2635 lb. 10s.

ROSEWALL HILL AND TANKERVILLE.—Wm. Bugelhol, Dec. 12: We have no particular change to notice in these mines during the past week.

ROSE UNITED.—George E. Tremayne, Dec. 18: The principal heavy parts of the 80-inch engine have been fixed, and the engineers are now busily engaged making the joints. The shears and capstan for sending down the pitwork we hope to get fixed this week, when we shall at once commence sending down the bearings and cistern for the house water-lift. The masons are getting on very well building the house for winding engine, steam capstan, and crusher. All the surface work is being pushed on with vigour. The tributaries in the back of the deep adit level are breaking road work both for tin and copper.

ROSEWATER UNITED.—John James, Dec. 18: We are putting in a dam in the main adit to prevent the mines being flooded in case of a choke. We hope shortly to have finished with the adits for the winter. We have set the taking down, loading, and carriage of the Clowance Wood engine house, with all the buildings to this mine for 1975.

SHELFORD (Clay and Tin).—Capt. Hancock, Dec. 11: I beg to hand you my report of the above clay and tin mine. The engine-shaft is down to the 15, and plat cut at this point; now in course to re-ventilate the tinstuff from the new stopes to the west of this shaft, which we let last week, and also from the east end. The lode here is improved for tin both in pitch and end, and ground good for stoping; this will increase the speed of stoping and also driving of end. We have been obliged to give for driving this end 6 lb. to 8 lb. per fm. now it is let for 8 lb. per fm.; so it will be seen that there can be 2 fms. driven for the same amount as 1 fm. We are pushing on these things with all possible speed, and hope to be able to increase the returns within two months, when the end and pitches are in full course of working. I shall be able to give you more particulars as to the future prospects when the ends are driven 40 fms. further, which will take about three months to do if the ground hold so good as it is now in sight. All of the other tribute and surface operations are just as they have been for the last four months. The machinery is in a good course of working throughout the mine. At the Clay Works the stopes of clay were never looking better for producing clay than they are at present. We are washing with all speed with three men and two boys, and think to get it for market 300 tons against next saving season. I think I can get a party that will take all the clay that we can raise for the year at 19s. per ton.

SOUTH CONDUROW.—J. Vivian and Sons, W. Williams, Dec. 18: We have communicated the No. 1 winze, under the 71 fm. level, with the 82, west of King's shaft, and have commenced stoping the back of the 82, east and west of winze, with 12 men, the lode being worth about 40 lb. per fathom. We have resumed driving the 82, west of King's shaft, where the lode is 5 ft. wide, and worth about 30 lb. per fathom. In the 71, west of King's shaft, we are carrying a width of about 8 ft. of the lode, which is worth about 80 lb. per fathom. In the No. 2 winze, sinking under the 71, west of King's shaft, we are carrying about 6 ft. of the south part of the lode, which is worth about 90 lb. per fathom. In the 61 fm. level cross-cut, north-west of King's shaft, the part of the lode through which we are now cutting is worth about 15 lb. per cubic fathom. In the winze sinking under the 61, west of Vivian's shaft, the lode is about 3 ft. wide, and worth about 25 lb. per fathom. In the 61, east and west of cross-cut, west of King's shaft, the lode continues worth about 15 lb. per cubic fathom. In the 10, east of new shaft, the lode is 1½ ft. wide, and worth about 10 lb. per fathom. In the shallow adit level, east and west of Plantation shaft, the lode is about 1 ft. wide, and worth about 7 lb. per fathom. We have communicated the winze from the shallow adit level, at Plantation shaft; and we find the most productive part of the lode standing to the north of the deep adit, which we have commenced stoping down, as we have now good ventilation in this part of the mine. We have commenced driving the deep adit level east of William's shaft, on the middle lode, which is 1 ft. wide, and worth 5 lb. per fathom. We have to-day sent to the smelting-works about 13½ tons of tin.

SOUTH DARREN.—John Boudry, W. H. Boudry, Dec. 16: Setting Report: The 90 to drive west by six men, at 1 lb. 10s. per fathom; the lode is 2 ft. wide, containing a mixture of lead and copper ore, but not enough to value. The 80 to drive west by six men, at 1 lb. 10s. per fathom; the lode is 2 ft. wide, and worth about 40 lb. per fathom, but with improving appearance. To stop the back over the 80, west of shaft, by four men, at 80s. per fathom; the lode is 2½ ft. wide, worth for lead and copper ore 14 lb. per fathom. To stop the back over the 80 west by six men, at 80s. per fathom; the lode is 3 ft. wide, worth for lead and copper ore 16 lb. per fathom. To stop the back over the 80, east from the winze, by six men, at 85s. per fathom; the lode is 2½ ft. wide, worth for lead and copper ore 22 lb. per fm. The 70 to drive west by four men, at 9 lb. 10s. per fathom; the lode is 3 ft. wide, worth for lead and copper ore 12 lb. per fathom, and showing indications of further improvement. To stop the bottom of the 70, west of shaft, by four men, at 85s. per fathom; the lode is 2 ft. wide, worth for lead and copper ore 13 lb. per fathom. To stop the back over 60 west by two men, at 80s. per fathom; the lode is 2 ft. wide, worth for lead and copper ore 10 lb. per fathom. To stop the back over the 50 west by six men, at 80s. per fathom; the lode is 3 ft. wide, worth for lead and copper ore 12 lb. per fathom. Surface operations are going on as usual. We shall sample our lead to morrow.

SOUTH LISBURN.—Capt. F. Williams, Dec. 17: Saturday last being our setting day, the following bargains were set:—The winze to sink below the 45 fm. level, 45 fms. west of shaft, by four men, at 6 lb. 10s. per fathom, present depth 10 fms. 4 ft. 3 in. but no lode has been taken down yet for fear of letting the water in. No. 1 stop in the back of the 45 fm. level, 35 fms. west of shaft, by six men, at 2 lb. 6s. per fathom; here the lode will yield about 1½ ton of blende per fathom. No. 2 stop in back of ditto, 30 fms. west of shaft, by six men, at 2 lb. 4s. per fm.; the lode is about 7 in. wide, producing blende at the rate of 1½ ton per fathom. The stop in the back of the 34 fm. level, 35 fms. west of shaft, set to two men, at 2 lb. 6s. per fm., where the yield for blende is from 18 to 20 cwt. per fathom. The stop in the back of the 27 fm. level, 25 fms. west of shaft, by four men, here we have fair promise for good blende, but as it will take the men from nine to ten days to clear their way we have not set to them. We shall sample to-day 40 tons of good quality blende, for sale on the 27th inst., although the extraordinarily wet weather of late has severely retarded our dressing operations.

SOUTH MERRILYN.—John Jones, Dec. 19: Vickers' Shaft: I have great pleasure in informing you that we have completed the shaft to the 120, likewise No. 2 sump. I have now placed six men to drive north from the bottom of shaft, and six men to drive south from bottom of sump to effect a communication. When the ends are sufficiently advanced we shall commence stoping (say) in 7 or 8 yards. The quantity of ground to be driven away between these two points will be 42 yards long by 20 yards deep, and the lode gives great promise for favourable returns. We have resumed the driving of the 100 yard level, north from shaft, by four men, at 4 lb. per yard. The vein is 3 ft. wide, and I am expecting to make a discovery very soon. The 100 yard level south has been let to four men, at 5 lb. per yard. The vein in the forebrest is 14 in. wide, and I am pleased to say is now carrying a leader of lead ore; the rise has been put up, and is now complete from the 100 to the 80 yard level. This has not only given us increased facilities for ventilation, which is now perfect throughout the mine, but has also opened good tribute ground. We sold last week 5 tons of lead at 13 lb. 10s. per ton, and shall hope to be in the market with frequent parcels.

SOUTH ROMAN GRAVELS.—John W. Powning, Dec. 19: Shelford: Since my last week's report I am pleased to say the lode in the engine-shaft, sinking below the adit, has further improved, and will now produce 1½ ton of lead ore per fathom, a very promising looking lode. The timbering of the shaft is completed to the bottom, and the sinking is again being carried on with all speed. No change in the deep adit cross-cut towards Roman lode since my last.

SOUTH POLKREBO.—J. Vivian and Sons, J. Paul, Dec. 19: We are driving the deep adit engine-shaft, at the 20, east of the engine-shaft, by two men, there being indications of another lode in this direction, and the rocks of a favourable nature for the production of ores.—Fraser's Lode: In the deep adit level, west of cross-cut, the lode is 4½ feet wide, very ferruginous in comparison, and yielding a little tin. In the deep adit level, east of cross-cut, the lode is 3 feet wide, making

fluoors, which alternately yield munda and tin.—Innis's Lode: In the deep adit, west of cross-cut, the lode is 4 ft. wide, containing a little copper ore throughout. In the deep adit level, east of cross-cut, we are carrying a width of the lode of 5 ft. without having the south wall, and it is improving in the production of copper ore, of which it now yields some good specimens, together with some tinstone.—Gossan Lode: In the deep adit level, west of Gossan shaft, the lode has lately been increasing in the production of copper, and we are of the opinion that it will continue to do so. At present we are driving by the side of the lode in order to make greater speed, but shall take it down in course of the next fortnight. In the deep adit level, east of Gossan shaft, the lode is 2 ft. wide, composed of soft gossan, impregnated throughout with black oxide of copper.

SOUTH WARD.—T. Foote, Dec. 13: There is nothing new to report on this week. Each of the points in operation are much the same. We are making good progress in rising and sinking; also with the crusher, and hope to get it to work by the end of the week.

ST. AGNES CONSOLS.—W. Vivian, Dec. 18: The engine shaft sinking under the 36, with nine men, at 23 lb. per fathom, is 3 fathoms below the 26 fm. level. The cross-cut driving north of the engine shaft, in the 33, we have cut through a flat lode 2 ft. wide, worth 10 lb. per fathom for tin. From the present appearance of the ground in the cross cut I think we are getting very near the Wheel Rock lode. The stopes in the back of the 26 are worth 10 lb. per fathom for tin. In the 17, driving on Wheel Rock lode, east of the engine-shaft, the lode is 2 ft. wide, very kindly in appearance, and worth 4 lb. per fathom for tin. We have commenced dialling the western level in W.D. Kiddy, adjoining St. Agnes Consols.

ST. BLAZEY CONSOLS.—R. Rich, Dec. 19: We are progressing satisfactorily in drawing up the rubbish from St. Blaze's shaft, and securing the same near the surface with timber; we find the shaft perfect between this and the adit. We are hastening all other operations as much as possible.

ST. DENNIS CONSOLS.—T. Parkyn, Dec. 19: We have a part of the great north lode, and am pleased to say that what we have taken out of the lode is rich for tin. I am not in a position yet to state its size as we have water to contend with, I think it will be found equally as rich as it is found in Wheel Mary. I will further advise you the moment I am able to do so.

ST. JUST AMALGAMATED.—R. Pryor, N. Bartle, Thomas Richards, Dec. 16: Savaell's Lode: The lode in the winze sinking below the 100 fm. level is 3 ft. wide, worth 6 lb. per fathom. The lode in the 82, east of engine-shaft, is 1½ ft. wide, yielding saving work for tin. The lode in the 50, east of ditto, is 3 feet wide, worth 7 lb. per fathom.—Wheel Bozards Lode: The lode in the 62, east of cross-cut, is worth 4 lb. per fathom. The lode in the rise in back of the 60, east of cross-cut, is 1 foot wide, worth 4 lb. per fathom.—Belton Lode: The lode in the 29, east of shaft, is 1½ ft. wide, worth 6 lb. per fathom. The lode in the 10, east of shaft, is 1½ foot wide, worth 4 lb. per fathom. The lode in the winze sinking below the adit level, is 2 feet wide, worth 5 lb. per fathom.—New Lode: The lode in the 20, east of Guide, is 1 foot wide, worth 4 lb. per fathom. The lode in the 10, west of Guide, is 1 ft. wide, worth 7 lb. per fathom. The balance-bob at surface is being set to work, and the shaftmen are busily engaged in fixing main rods, &c., which we trust will be completed and the shaft in course of sinking below the 110 by the time estimated.

ST. LAURENCE AMALGAMATED.—W. Wasley, Dec. 19: St. Laurence: The eight men are making fair progress in driving the 52 yard level; the lode is producing some fine lumps of ore, and looking very promising for an improvement shortly.—Valentine: The eight men in the 68 yard level cross-cut are driving at a fair rate, and I hope the ground will soon improve. There is now a good deal of water oozing out of the end, which makes me think we are not far from the lode. Owing to so much water going down after the rain, I have stopped the men from stoping, and put them to clear out an old level at St. Laurence, over which I am told the old wheel has been quarantined.

TAMAR CONSOLS.—G. Rowe, Dec. 19: The steam-engine is working well, with the pitwork, and the old workings are draining as fast as the nature of the work will admit. All other operations are without change.

TANKERVILLE.—Arthur Waters, Dec. 19: Watson's shaft is 5 fms. below the 130 fm. level; for the last eight days we have kept the men cutting down the foot-wall and getting further east into the main body of the lode, with a view of reducing the underlie of the shaft. I referred to this subject in a previous report, and expressed my opinion that we should soon be into the great run of ore again, and find it continuing in depth, as the lode is now 6 ft. wide, and the stuff coming out of the shaft to-day being of that soft, solid, rich-looking lead which has characterised Tankerville lode from the 50 downwards. We shall go still further into the footwall, believing that a yet richer deposit will be found, and that it will be wise to fully test the question before the deepening of the shaft is resumed. The 120, east of shaft, is worth 70 lb. per fathom. All the stopes are quite up to the value estimated in the setting report of last week. We shall have broken and dressed 50 tons of lead ore from the beginning to the end of the current week. As you will get this report by the post, which will bring you the list of tenders for the 100 tons lead ore to be sold to-morrow, perhaps you will fill up the blanks; I shall have to show the price per ton realised—15s. 8s. 6d.

THE LOVELL.—John Nancarrow, Dec. 19: The new wheel is finished, the carpenters are now getting on the ladders, the pulleys and stands are fixed, the shaftmen are sending down the pitwork, and all will be ready for working on Saturday or Monday. The adit is thoroughly cleared and repaired. The stopes at the 12 continues to be worth about 70 lb. per fathom. The dressing goes on fairly.

THE LOVELL.—J. Harris, Dec. 18: The lode in the 44, west of engine-shaft, is without change since our last report, worth 8 lb. per fathom. The lode in the 41 east is producing stones of tin, but we have not driven far enough into it as to ascertain its value. The 34, west of engine-shaft, is worth 7 lb. per fm. In the 34 east we have cut into the south side, and find the lode large, producing stamping work. The lode in the 24, east of Windmill shaft, is worth 15 lb. per fm. for the part carried, 5 feet wide, with more lode standing to the north. We have to-day sampled another parcel of stuff from the winze sinking below the 24, and we find the lode will produce fully 3 per cent. of tin, and worth 90 lb. per fathom for 12 feet long, and 6 feet wide. The 24, east of shaft, is now 6 ft. wide, and is without change in their values—60 lb., 20 lb., 20 lb., and 12 lb. per fathom. We are getting on as fast as we possibly can with our buggies, and other dressing appliances, but the weather is very much against our out door work. The masons will finish building our burning-house stack this week.

VAN CONSOLS.—J. Roach, Dec. 19: The 60 east of Gundy's, on north part of lode, has improved this week; it is now producing from 1 ton to 1½ ton of ore per fathom. I intend to sink a winze under this level soon as the sole of the level has been reached. The 45, west of shaft, is now 6 ft. wide, and is just as last reported. The 45 west ditto is in a disordered lode at present, but is still producing good stones and a mixture of ore on the north wall. In the 45 east of rise we are driving on north part of lode, which is composed of solid barytes, 16 in. wide, and stones of ore. The principal part of the lode reported last week as yielding 31 tons of ore per fathom is now standing south, which we shall cut down in a few days hence, and again report its value. To-day we have let a rise 3 fms. behind the end, to communicate with the winze sunk under the 35, and suspended in consequence of a great influx of water. We have a good lode of ore to start on, which will not do continuing throughout. In the 35, east of winze, we have commenced driving east in the middle of the lode, which produces pieces of ore, and presents indications of early improvement. The 25, east of Little's, contains lime, spar, and sulphur, and is more promising for ore than it has been for some time past.—Western Engine-shaft: The 75 is cleared and secured to within a few fathoms of forebrest; when completed I intend to cross-cut the lode before resuming the drive east on south part. All our dressing machinery is being completed as rapidly as the weather will permit.

WALKHAM (Tin).—C. F. Colloom, Dec. 18: As this is the first report a few introductory remarks may not be out of place. The mine is situated in the parish of Walkham, in the county of Devon, and is situated in the parish of Walkham, within the sett a very large and congenial vein, and towards the eastern boundary running north and south, is the great cross-course of the district, against which all lodes wrought on, both north and south of this mine, have yielded large returns and paid good dividends. Allusion was first made to this run of mineral ground in an article headed "Tin Mining in Devon" (*Mining Journal*, Nov. 2), in which a graphic description of the strata was given; again in a report on the "Gem" (*Mining Journal*, Nov. 23), the value of the lodes where they intersected the elvan was alluded to; now, these sections of the lodes occur in the Walkham sett, in the verification of this union, and facilities to state them in clearer some ancient surface workings on the great north lode at a point where it intersects the elvan I find it rich, the south part being 4 ft. wide, and worth an average of 56 lb. of black tin to the ton, and another part, about 2 fms. further north, which is only cut into about 1 foot, produces an average of 170 lb. of black tin to the ton. We are clearing a shaft which will bring us under these workings, and in which I anticipate still further discoveries. The deep adit cross-cut is now driven about 17 fms., and within 4 fms. of where I calculate we shall intersect the lodes, from which the lode in the "Gem" all the returns of tin are being made. At present the mine is not divided into shares.

WEST CARADON.—H. Richards, J. Payor, Dec. 18: The lode in the 77, west of cross-course, will produce ½ ton of copper ore per fathom; east of ditto ½ ton per fathom. The lode in the 66, west of cross-course, will yield ½ ton per fathom—a kindly-looking lode. A winze sinking below this level, east of cross-course, will produce 1½ ton per fathom; a stop in the back of this level will yield 1½ ton per fathom. The lode in the 55, east of cross-course, is producing some ore, but not sufficient to value; a stop in the back of this level will yield 1 ton per fathom. The lode in the 42, east of cross-course, is split in three parts, and consequently, has been suspended for a short time, allowing the tributaries would prove as they worked down nearer the back of this level; we now find the main part of the lode to be standing north; we have, therefore, cut into it, and are now driving on its course, and it will yield 2 tons per fathom. The lode in the 30 fm. level, east of cross-course, will produce fully 1½ ton per fathom. The improvements in the lode at this level, together with the 42 fm. level, looks well for our eastern ground.

WEST CONDUROW.—S. Terrill, Dec. 19: In the 90, west of cross-cut, the lode yields good stones of copper, and from the indications I hope we are approaching good mineral ground. In the 30 east there is a branch on the south wall which I think in 3 or 4 fms. driving will form a junction with the lode, where we may reasonably expect a good improvement.

WEST DRAKEWALLS.—Thos. Gregory, Dec. 15: We are making fair progress in sinking the engine-shaft below the 65 fm. level. In the 65 fm. level east we are driving by the side of the lode in good ground both for progress and mineral. We purpose cutting into the lode at the end of the month. In the 65 fm. level west we think we have the south part of the lode; it is composed of soft quartz, intermixed with some capel and munda, containing a little tin. We shall commence a winze in the lode in the bottom of the 65 east as soon as possible for proof of the lode by the time the shaft is down.

WEST GREAT CONSOLS.—R. Pryor, H. Vial, Dec. 17: On Saturday last we set the following bargains:—No. 3 cross-cut to drive north at the 50 fm. level, by six men, at 1 lb. per fathom. The stop in back of this level (50), over No. 2 cross-cut, is for the present suspended, and the men put to take down a piece of the lode west of the Plantation shaft. The stop in back of the 40, west of this shaft, by four men, at 7s. 6d. per ton; lode 7 ft. wide, rich for munda, intermixed with copper and a little tin. To stop the 30, west of shaft, by four men, at 8s. per ton, where the lode is 5 ft. wide, and is the 40, east of Kelley Hole shaft, by two men, at 4 lb. 10s. per fathom. No lode taken down in the last reported on. The engine-house is up, and the carpenters are engaged in putting roof on same. All other surface work is being pushed on as fast as the weather will permit.

WEST GWENNAP CONSOLS.—John Nancarrow, Dec. 19: We are making better progress in clearing Wheel Moyle shaft. Dawden George's shaft is repaired

from surface down several fathoms, and we commence drawing at once. We hope soon to clear the lode and get to work on the lode.

WEST GODOLPHIN.—John Pope, jun., Dec. 16: Setting report for four weeks ending Jan. 10: Caunter Lode: A borrow-road to cut at the 40, change the bottom lift in Pressure shaft, and sink the shaft 2 fathoms below the 40, by eight men and four labourers, per bargain 70 lb. The 40 to drive south-east of Pressure shaft, by six men, at 2 lb. 15s. per fathom. A rise in the back of the 30, south-east of Pressure shaft (close to the present end), by six men, at 6 lb. per fathom. No. 1 stop in the back of this level, to four men, at 1 lb. 15s. per fathom. No. 2 stop, to four men, at 2 lb. 2s. per fathom. No. 3 stop, to four men, at 2 lb. 15s. per fathom. The 30 to drive north-west of Pressure shaft, by four men, at 4 lb. 10s. per fathom. The stop in the back of this level, to two men, at 1 lb. 12s. 6d. per fathom. A winze to sink in the 30, south-east of Pressure shaft, to communicate with the rise being put up in the 30, by six men, at 6 lb. per fathom. No. 1 stop in the back of this level, to two men, at 1 lb. 10s. per fathom. No. 2 stop, to two men, at 1 lb. 10s. per fathom. No. 3 stop, to four men, at 2 lb. per fathom. The 20, to drive west of the caunter on Hope Lode, by two men, at 6 lb. per fathom. No. 1 stop in the back of this level north-west of Pressure shaft on the caunter lode, to four men, at 1 lb. 12s. 6d. per fathom. No. 2 stop in the back of this level, to four men, at 2 lb. per fathom. The deep adit level to drive south-east of Vivian's shaft, by six men, at 7 lb. per fathom. One tribute-pitch, to two men, at 13s. 4d. in the 1 lb., at 60 lb. per ton.

—John Pope, jun., Dec. 18: Caunter Lode: The lode in the 40 driving south-east of Pressure shaft is 2 ft. wide, worth 8 lb. per fathom, and looking kindly for further improvement. The lode in the rise in the back of the 30, south-east of Pressure shaft, is 2 ft. wide, worth about 5 lb. per fathom. The lode in the 30, driving north-west of Pressure shaft, is 2 ft. wide, with saving work for tin. The lode in the winze sinking below the 20, south-east of Pressure shaft, is 3 ft. wide, worth 6 lb. per fathom. The lode in the 20 driving west of the caunter on Hope Lode is 15 in. wide, worth 4 lb. per fathom. The lode in the deep adit level driving south-east of Vivian's shaft is 3½ ft. wide, worth 6 lb. per fathom. The stopes throughout the mine are well changed worthily of remark.

WEST JEWELL.—J. Michell, Dec. 19: We continue to sink Greene's engine-shaft below the 57, which is now 4 ft. below the same, and shall sink 2 ft. deeper before commencing to clear the level referred to, which is two-thirds full of debris, left by the late workers. Our prospects at present are very encouraging, and I believe in a very short time we shall be giving entire satisfaction to the shareholders.

WEST MARIA AND FORTESCUE CONSOLS.—W. Skeewis, J. Donal, Dec. 18: West Maria Lode: The shaftmen have commenced taking out penthouse at the 82 preparatory to putting down skip-road to the 93, which will be done as fast as possible; the lode in the 93 is worth 30 lb. per fathom. The lode in the 82 east is 6 feet wide, of a very promising description for tin and copper, and is worth 20 lb. per fathom. No. 1 stop in back of this level is worth 15 lb., and No. 2 stop 10 lb. per fm. The stop in back of the 71 east is worth 15 lb. per fathom, and the stop in bottom of the 60 west 10 lb. per fathom.—Capel Tor Lode: The drive is by the side of the lode in the 71, east of cross-cut, west of Willersford's shaft, the ground is improved; in this level driving west the lode is large, and a fine course of ore worth 40 lb. per fathom, and promising for improvement. The 82 fm. level cross-cut north is being pushed on as fast as possible to cut this lode, and we expect it will be done in about eight weeks.

WEST ST. PETERSTONES.—R. Smitham, Dec. 17: The engine-shaft is now 37 fms. below adit, but for the severe weather, which is bringing so much water into the shaft at and just below the surface, the sinking would go on more rapidly. However, the men are doing their best, and I calculate in about six or eight weeks hence that we shall be able to commence driving out under the old workings to the lodes. The rock, or present bottom, is of a congenial character for lead.

WEST TANKERVILLE.—Arthur Waters, Dec. 19: California shaft, below the 22, is going down in a lode worth 4 tons, or 60 lb. per fathom. We are now ready to commence sinking the boundary shaft below the 6, and shall go on without delay to the 20, which we hope to reach in about two months, when our way into the north and 50 and good ore ground will be open. Good ore is being got in driving north and south of shaft cross-cut at the 6, on Lawrence's lode, which is improved since last week. We are making good progress clearing out the workings in this part of the mine. We hope soon to be able to drive the 20 south, on the great second north lode, of the Roman Gravel Mine, and which is all in West Tankerville liberty, south of the cross-cut, driven by Messrs. Palin and Company when they were owners of the Roman Gravel Mine. This lode in general appearance and underlay is analogous to the Roman vein in similar depth. Other points—Wood and Cornish lodes—without change since last reported on.

WEST TOLGUS.—Dec. 18: We have not measured Taylor's shaft, having sunk but very little in the past month; we thought it the better way to leave it. We have arranged to put four more men in the shaft to try if possible to get down the shaft for the 125 fm. level against next setting day, and if we can be but fortunate enough to keep the water in fork we think we shall do so. The 115 east has been set and driven, the lode has been taken down close to end, and being so wide and hard with plenty of water, we think it the safest, and cheapest, course to push on in kilns; the lode in the breast is 6 feet wide, and will yield 3 to 3½ tons of ore per fathom. We have set all the ends west of Taylor's shaft to drive with as many men as we can get. The 85 and 75 fm. level ends seem to us to be of the most importance, having a good lode in the 75 fm. level end, yielding 3 tons of ore per fathom; we want to hasten on the 85 fm. level end as fast as possible to get under the ore in the 75, and to put up a rise to give ventilation, to enable us to get away some ore from there; this 75 fm. level end has passed through from 10 to 12 fathoms of good ground; we think 7 or 8 fathoms of it will yield from 4 to 5 tons of ore per fathom. The 85 fm. level end is a long way behind the ore in the 75 (more than 20 fathoms); we shall have to keep going the 75 fm. level end until the lode is drained by the 85 to enable us to sink a winze. Air-machines are being now put in both these ends, and a good price is given for the ends to hasten them on as fast as possible. At Richard's shaft the lode in the 40 fm. level end is looking better, now yielding 1 ton of ore per fathom. The lode in the 40 fm. level end west is not so wide as it has been, barely 2 feet wide, but it will yield 2½ tons of ore per fathom.

WEST WHEEL GORLAND.—J. Mayne, Dec. 19: The lode in the 42 east is considerably improved, and is now worth for tin and copper 80 lb. per fathom. Three stopes on this lode, west of the shaft, are worth 40 lb. per fathom in the aggregate. The 32 driving east is worth 8 lb. per fathom.—North Lode: The 42 driving west is a large lode, producing good stones of ore. The 20 driving east is worth 8 lb. per fathom. We are making all the progress in the surface works that we possibly can.

WEST WHEEL LUCY.—J. Nancarrow, W. Harris, Dec. 18: We are cutting through the lode in the rise, and find it very large; we hope this, when cut through, will let down the water from the shaft. The north lode, in the elvan, yields stones of tin, as last week.

WHEEL ARGUS.—W. Trehair, Dec. 18: Since last week we have cleared up and timbered Collier's shaft 2 fms., which is now driven 13 fms. from surface. In the adit we have made fair progress during the past week, having cleared and secured 5 fms. We have set the building of engine-house and smiths' shops. The foundations are being taken out, and we hope to begin building next week. The carpenters are preparing for the new stamps, a portion of which has already been delivered. No time will be lost in getting it to work, when our returns of tin will be increased.

WHEEL BULLER.—Chas. Thomas, Dec. 18: All our operations are much the same as last reported on. Next week being our pay and setting a full report shall be sent you.

WHEEL COATES.—W. H. Martin, Dec. 19: The shaftmen are making good progress in cutting down the engine-shaft below adit; from present appearance they will complete the shaft to the bottom of the 10 fm. level this month. We have suspended the cross-cut south, and put the men to drive north to see the foot-wall of the lode in the cross-cut, and the lode in the cross-cut is 10 ft. wide for the whole width; it produces tinstuff for the stamps. After a long perseverance, the shaftmen have finished the roof of the stamps engine-house, and the engineers are preparing to lift the bob on the wall; we shall push on the erection of the engine with the utmost speed. The carpenters are engaged about the skiproad from the engine-shaft to the stamps passes to save the expense of carting the tinstuff to the stamps.

WHEEL CREBOR.—J. Goldsworthy, Dec. 14: In the 120,

west of shaft, no lode has been taken up during the past week. In the 115, driving west of shaft, the lode is worth for tin 10. per fathom, also the lode in the winze sinking below this level 10. per fathom. In the 118 fathom level, driving east, the lode is worth for tin 8. per fathom. In the 108, driving west of shaft, the lode is worth for tin 13. per fathom. In the lode in the rise in the back of the shaft, the lode is worth for tin 13. per fathom. In the 94, driving west of shaft, the lode is worth for tin 10. per fathom. There is no change to notice in the 82 since last report. The lode in the 29, driving west of rise, is much the same as reported last week, worth for tin 7. per fathom. The lode in the 90, east of engine-shaft, is still disordered. The lode in the north adit level, driving west, is of a very promising nature for the production of tin.

WHEEL LUCY.—J. Nancarrow, Wm. Harris, Dec. 18: The summen are preparing to fix a lift at the 10; the ground in the shaft is not altered. Fair progress is being made in driving the 10 f. level cross-cut south. We have begun rising from the 10, on Hitchin's lode, where it is worth 20. per fathom. The adit end east, on Hitchin's lode, looks better, and is likely to improve. The end east on the Carbons below the adit looks very promising, and is evidently improving. Nothing new in the east shaft.

WHEEL MARY ANN.—Joseph Harris, Jas. Stevens, Jas. Skeat, Dec. 18: The lode in the 250, north of Clymo's shaft, is 2 1/2 ft. wide, worth 6. per fathom. In the same level south the lode is 2 ft. wide, worth 4. In the 240 north the lode is 2 1/2 ft. wide, worth 8. per fathom. In the 190 north the lode is at present small and poor. There is no change to notice in driving the 200 south of Trelawney's shaft since the meeting. In the 190, driving north of Smith's shaft, the lode is 3 ft. wide, producing saving work, but not sufficient to value. The stopes and pitches continue to yield their usual quantity of ore. We shall sample to-morrow two parcels of lead ore, No. 1 computed 65 tons, and No. 2 computed 45 tons.

WHEEL RUBY.—J. Richards, Dec. 18: The men are progressing at a favourable rate with driving the adit end west, on the main lode, the part of which now being carried is about 3 ft. wide, which we find to improve for tin as we continue to drive, and the appearance speaks well for still further and speedy improvement. We are forcing this on day and night, so as to reach the cross-course and the junction of granite and killas as early as possible, where we have every reason to expect a decided improvement in the lode. We have tested the samples taken from different parts of the lode that we have opened, the present end proving the most productive of any part yet seen by us, as you will discover from the accompanying particulars. Should the lode continue to improve as for the last 5 or 6 fathoms we shall soon have a paying mine as we approach the cross-course a short distance before us. Produce of samples taken from cross-cutting the main lode—

Sample.	Cross-cut.	Size of lode from wall to wall.	Produce of tin per ton stuff.
1	No. 1 east	5 feet wide	2 lbs.
2	" 2 "	4 1/2 "	"
3	" 3 "	4 1/2 "	"
4	" 4 "	4 1/2 "	8 1/2 "
5	Bottom of shaft	5 "	13 "
6	Adit end	4 1/2 "	10 "

WHEEL UNY.—W. Rich, M. Rogers, Sam. Coade, jun., Dec. 14: Owing to the excessively wet weather the water has considerably increased in the mine; we are, however, keeping the mine drained pretty well. We have the balance-bob in places at Hind's shaft, and have a promise of masons to build in boiler and to do other works next week. We have begun to drive the 140 east of Gooding's shaft: the lode in the end is worth 8. per fathom. The 140 west of incline is suspended for the time, till we make a new shaft or put in a new skip-road; this shaft is so crooked and bad for hauling through that it costs just as much to haul the stuff as to break it. The 130 end east of Gooding's is worth 15. per fathom. The cross-cut south at the 130, towards Hind's shaft, is exceedingly hard and the progress very slow. The 120 east is worth 10. per fathom. The 110 east is worth 15. per fathom. The 100 east is worth 8. per fathom. The 50 east of King's shaft is worth 6. per fathom. The 50 east of ditto is worth 7. per fathom. We have made a communication between the 60 and 50, which has given good ventilation. The 50 east is worth 8. per fathom. The 50 east is yielding a little tin.

LEAD MINES.—This week the Van lead ore for the month has sold at 154. 9s. per ton, being an advance of 13s. 6d. per ton over the last sale. Tankerville sold at 154. 3s. 6d., or an advance of 8s. 6d. per ton. Roman Gravel sold at 154. 1s., or an advance of 5s. per ton. Rookhope sold at 134. 11s. 6d., an advance of 9s. per ton. The supplies of lead (particularly foreign) have fallen off for some time past, and there is every prospect of the price going still higher. We have always advocated lead mining as the steadiest, safest, and most profitable, and we believe the early spring of the coming year will see public attention considerably directed to the desirability of investments in good home lead mines.

PLYNIMON.—The lode in the 36 west is 5 ft. wide, having well-defined walls, and containing strong branches of muffle and spots of lead. The winze below the 12 f. level, 18 fms. in advance of the 24, is down 2 1/2 fms., and worth 15 cwt. of lead ore per fathom. The 12 end is worth 18 cwt. per fathom, and is in whole ground to surface for 30 fms. high. At other points important discoveries are expected.

TANKERVILLE.—The course of ore east of the shaft is now 5 feet wide, the stuff coming out being of that soft, solid, rich-looking lead, which has characterized the lode from the 50 downwards. It is believed that in driving further into the footwall the lode will be found even still richer. In the current week they have broken and dressed 50 tons of ore.

POLBRENN (St. Agnes).—The past week has wonderfully improved the prospects of the shareholders, for the lode known to the former workers as the Wheal Kitty lode, and which produced them very large returns, has been met with in clearing northward at the 32, and is already yielding good stones of tin. Beside this good fortune, every other part of the mine has improved, and the winze below the 22 cross-cut north having been holed into the rise above the 32, the 32 cross-cut north is better ventilated, and altogether the 32 fathom level is getting more under work day by day.

WEST POLBRENN.—The water growing troublesome from the unprecedented rains, it was determined to rise against the new shaft from the adit so as to give it an outlet. In doing this a very promising lode of tin has been met with, and in addition a stope in back of adit proves to be worth full 12. per fathom.

BURROW AND BUTSON.—The christening of the beautiful steam-engine, "Ellen Maria," was a great success. A full account of the proceedings must be deferred till next week, for want of time and space. The sinking of the engine-shaft is going on well, and the 20 f. level is likely to be reached in a month.

VAN MINE sold on Thursday, for four weeks' sampling:—

470 tons of lead, at 154. 9s. 6d. = £ 7,420 7 0
150 tons of lead, at 154. 3s. 6d. = £ 2,315 7 0
The mine has sold during the present year:—

6230 tons of lead, value £ 88,624 12 0
2110 tons of blende, value 7,134 0 0 = £ 95,758 12 0
So that in one year the value of the ore sold has exceeded by 32,000, the entire capital of the company.

CHONTALES.—The directors have a notice from Mr. Smiddle, dated Nov. 5: Gold returned for the month of October, 377 ozs. from 2167 tons of ore—average yield, 3 3/4 dwts.; value, 1056s.; cost for the month, 1009s., which included 400. paid for freight of iron rails. Mr. Smiddle reports favourably of the mines and states that if he can be supported with the sum of 2000. he has no doubt that he will have the other 12 heads erected, another steam-engine fixed, and San Sebastian Mine opened and connected by a tramway with the mill, so that during the next wet season they will have a prosperous career. The directors have anticipated Mr. Smiddle's request by sending him, per last mail, 5000. in specie, and confirming the power previously given him to draw on the company for 2000. more.

Vice-Chancellor Malins has appointed Mr. Robert A. McLean (Barnard, Clarke, McLean, and Co.) to be provisionally official liquidator of the Beehive Fire Insurance Company (Limited).

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£100 East London Railway Perpetual Pref. Stock, £77 1/2 net; 25 Maritime Insurance Company (Limited), £10 (22 paid), £34 each; 2 £100 Certificates Government and Guarantee Permanent Trust, 6 per cent., £21 1/2 each; £420 ditto, £20 1/2 each; 4 First Mortgage Madras Irrigation and Canal, 5 per cent., payable in London (£50 each), £41 10s. net; 15 Standard Trust, 3s. each.

WANTED, for cash—25 West Tankerville; 20 East Grenville.

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M. R. G. S. SMITH begs to inform the ADVERTISING PUBLIC and his PATRONS that he has PURCHASED the STOCK of DIRECTORIES, COMPANIES LISTS, and GOODWILL of the business lately carried on by E. H. EISTON, of Camberwell Park, and is now in a position, with the aid of the same, together with his own stock of directories and lists, to OFFER INCREASED ADVANTAGES for ADDRESSING, FOLDING, ENVELOPING, and any quantity of trade or other circulars to be circulated in the United Kingdom. Every directory published kept in stock.

G. S. SMITH (Established 1868), GRESHAM HOUSE, LONDON.

* * With this week's Journal an enlarged SUPPLEMENTARY SHEET is given, which contains: Mr. Warrington W. Snyth's Lectures on Mineralogy at the Royal School of Mines—Scottish Iron Trade, No. XXI.—Meetings of the Cilt on Silver, Eclipse Gold, Governor and Company of Copper Miners in England, Imperial Brazilian Collieries, Utah Silver, New Injebrook Silver-lead, Silver Star, Wheel Vincent, New Hington Tin, Cwm Vron Lead, South Aurora Silver, Tincroft, Rosewall Hill and Ransom, South Fowey Consols, Spear Moor, and East Wheel Seton Mining Companies—Prospects in the Gwynedd District—Utah Silver Mining Company—New Colliery Special Rules—Coal Supply for Southern India—Coal Mines Regulation Act—Foreign Mining and Metallurgy—Foreign Mines Reports, Patent Matters, &c.—Original Correspondence: Our Coal Supply, the New Trial Sinkings; Mineral Rights in the Forest of Dean; Utilisation of Mine-Dust and Slag as a Building Material (J. Adamson); New Blasting Powders; Lithofracteur and Pudrolite (Harvey and Co.); N. Ennor on the Loss of Tin from Mines on the Red River, No. II.; American Mine Financiering—Home and Foreign Mines; An American's View of Tin Mining in Cornwall (G. W. Baker); Letters from Utah; Philosophy of the Study of Minerals Fields (J. Van Cleve Phillips); Progressive Mines; New Great Consols, No. III. (R. Symons); Wheel Seton Meeting; Extracting Precious Metals from Copper Pyrites (T. J. Barnard); Trickery in Mining; Australian United Mining Company; English and American Financiering; Utah Mine, and its Management, &c.

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, DEC. 20, 1872.

COPPER.	s. d.	£ s. d.	IRON.	per ton.	s. d.	£ s. d.
Best selected, p. ton	93	0 0 94	0	0 11	5	0
Tough cake and tile.	90	0 0 93	0	0	0	0
Sheathing and sheets.	91	0 0 95	0	0	0	0
Bottoms	100	0 0	0	0	0	0
Old	75	0 0 78	0	0	0	0
Burra Burra	90	0 0	0	0	0	0
Wire	0	1 0 1/2	0	0	0	0
Tubes	0	1 0 1 1/2	0	0	0	0

BRASS.	per lb.	SPELTER.	per ton.
Sheets	9 1/2	23	10 0 0
Wire	10 1/2	0 24	0 0
Tubes	10 1/2	0 24	0 0

ZINC.	per ton.	QUICKSILVER (p. bot.)	12 15
In sheets	31	10 0 32	0 0
Do, bars (in bria)	144	0 0	0
Do, refined	145	0 0	0
Do, Banca	145	0 0 146	0 0
Do, Straits	134	0 0 136	0 0

TIN-PLATES.	per box.	LEAD.	per ton.
IC Charcoal, 1st qua.	£ 1 1/2	English Pig, com.	21 15 0
IX Do, 1st quality	2 4	Ditto, L.B.	21 15 0
IX Do, 2nd quality	1 16	Ditto, W.B.	22 10 0
IX Do, 3rd quality	2 2	Ditto, sheet	22 15 0
IC Coke	1 13	Ditto, lead	24 10 0
Canada plates, p. ton	24	Ditto, white	28 10 0
Ditto, at works	21	Ditto, patent shot	24 10 0

* At the works, 1s. to 1s. 6d. per box less. † Add 6s. for each X.
True plates 2s. per box below tin-plates of similar brand.

REMARKS.—Taking a review of the Metal Market during the past week, while there is nothing very special to record, it is a matter of satisfaction to observe that there has been a general improvement in the tone of almost all metals. Business has become more diffused, transactions more numerous, and of a more important character. A somewhat more speculative feeling has been apparent, but the great bulk of the business transacted has been of a legitimate and bona fide mercantile description. It is gratifying that at this usually dull period of the year such activity should have sprung up, which, should it not eventually prove of an altogether permanent character, will at all events afford some stability to the market for a considerable time, and the close of the year promises to be more favourable than could have been anticipated a few weeks ago.

COPPER.—The market for copper opened moderately firm at the early part of the week. Sales of Lots on Monday were made—50 tons at 82. 15s., and 72 tons at 83. 10s., and 50 tons g.o.b. at 84. 10s., and 75 tons Wallaroo at 90. 10s., and 25 tons 90. 10s., and 75 tons Banca 90. 10s. On Tuesday the market continued steady, and Lots changed hands at 83. 10s. cash terms, 75 tons at 84. 10s. three months, g.o.b. 84. 10s. usual cash, 75 tons 85. two months; 50 tons Wallaroo again sold at 90. 10s. cash, and Banca, 25 tons at the same price. On Wednesday the market continued much about the same; g.o.b. 25 tons at 84. 10s. This was the only transaction reported in Chili bars, but in Australian sales amounted to 250 tons Wallaroo at 90. 10s. and 50 tons Banca at the same price; 25 tons of Japan copper realised 87. On Thursday Lots were placed at 82. 15s., and 83. 10s., and 100 tons of Wallaroo at 90. 10s. cash; 75 tons at 91. 10s. about two months prompt. In English "best selected" considerable purchases were made between 92. and 94. The market to-day continues to maintain the position which it has occupied throughout the week. Sellers are very firm. There are buyers for g.o.b. at about 84. and 84. 10s., but the quantity to be obtained at these prices is very limited. There is a good enquiry for best brands of Chili bars, but holders are not willing to part with these except at a considerable advance upon present quotations. In fact, holders of Chili bars generally are so persuaded of the certainty of improvement in prices ere long that they are very reluctant to sell at all at present, and as the market is free from weak holders there seems every reason to expect that prices will advance.

IRON.—The shipping season in the North of England is now finally closed for the winter, at least so far as shipments to the Baltic and other northern latitudes are concerned, so that the iron trade is necessarily restricted within narrow limits. The month of December is usually looked upon as likely to be, from various causes, the least brisk of the year, and it is not uncommon at that time to perceive a tendency to a decline in prices. This year, however, appears likely to prove an exception. Rumours have been circulated of the probability of a fall in iron, but facts substantiate a firmness in the market, and a tendency to the maintenance of existing rates, and a prospect to an advance. It appears that some of the important firms have already entered into engagements to purchase a large quantity of iron for the early months of the coming year, and the disposition is apparent on their part rather to purchase iron which may be offering somewhat under quotations than to allow it to be disposed of in the open market. The reduction of a Bank rate to 5 per cent. has removed apprehension with regard to dear money at present, and added facilities for the carrying out of operations which did not exist before. The output of ironstone is likely to be materially diminished by the unsettlement of the labour question. The "mate" system is insisted upon by the men, and it remains a question whether the master will permit its introduction; if not, a large number of the miners have given notice of their intention to cease work. Another reason for the maintenance of high prices in finished iron is, that during the late coal panic large quantities of fuel were contracted for far forward delivery at high prices, and sellers are indisposed to enter into further engagements, except for full quantities at advanced rates. The various descriptions of finished iron exhibit firmness, and in some increased activity is observable. Rails are steady, and there is a good enquiry for merchant bars.

The weekly report from South Wales is much more encouraging. In this district the demand for finished bar-iron is distinctly improved. For some time past the enquiry has rather been for rails than for other descriptions of iron; but now, though the rail market is firm, a greater disposition to buy merchant bars is evinced. It may be gathered that these orders have been held back, in the expectation of lower prices; but the demand has become imperative, and so the orders are being placed. It is generally believed that the requirements for railways must be large, so that the spring shipments of all kinds of iron are not likely to show any falling off; nor is there any probability of a decrease in the demand for home consumption.

The Scotch pig iron market has shown great firmness throughout the week, and some considerable animation also, a large business having been concluded at advancing rates from 105s. to 114s. There has been but little fluctuation; the advance has been generally continuous. The enquiry for pig iron is unusually good for the season of the year, and makers betray an unwillingness to submit to terms not fixed by themselves, as owing to the agitation which prevails amongst the miners, and the possible scarcity of ironstone and dearth of fuel, it is felt that considerable uncertainty overshadows the future of the trade: g.m.b. at Glasgow, deliverable alongside, No. 1, 112s. 6d.; No. 2, 108s. 6d.

For the week ending December 16, 1871 Tons 14,009
December 14, 1872 13,241

Total increase since Dec. 25, 1871 768 tons.

LEAD.—The market is unchanged, still very firm, and the probability of prices receding is very remote on account of the shortness of supplies. Good ordinary soft English pig is not obtainable under 21. 15s., and 22.

SPELTER.—There is no alteration in the position of this metal, business is limited, but quotations remain firm. Common Silesian, 23s. 10s., and special branches at out ports 5s. more.

ZINC.—A sale at public auction on the 19th inst. realised for 140 tons 28s. 15s. to 28s. 17s. 6d.

STEEL.—For foreign the market has undergone no change, buyers' limits being still much under what sellers will accept. English is in fair request.

TIN PLATES.—The makers are now very much better supplied with orders than they were a few weeks ago, and prices have advanced 3s. to 4s. per box from the lowest quotations.

TIN.—Since this day week the market has assumed a better ap-

pearance, and the prices of English blocks, and other English descriptions, have advanced 5s. In Straits there has been a good demand, and higher prices in some instances have been obtained. On Monday 170 tons was reported sold at 137. to 138. 10s., chiefly from 137. 10s. to 138. 10s.; 90 tons for arrival at 137. 70s. at 137. 70s. December shipment by Christmas, 10 tons, at 138. 10s., November sailing, as well as 10 tons at 138. 10s., January prompt, and 15 tons at 137. for the first quarter of the year; 10 tons of Banca, at 145. cash. On Tuesday there was not quite so much doing, and the market was a little easier for spot parcels, 137. being accepted; and 5 tons for January, at 138. 10s.; 15 tons, at 138. 10s.; and 5 tons, at 137. 10s. Australian tin ore, of good quality, has realised 8s. 12s. to 8s. 15s. 6d.; inferior ores, 6s. 2s. 6d. to 7s. 10s. On Wednesday the market was very quiet—10 tons, at 137. cash, closing with sellers at 136. The market on Thursday further receded, 5 tons being reported at 135. cash, and 10 tons at 135. The same quantity also for one month's prompt—10 tons, at 134. 10s., January.

IRON TRADE.—(Griffiths's Weekly Report).—We have to report a further advance of 9s. 6d. per ton in Scotch pig iron on the Glasgow exchange this week. The closing price this day week was 105s., to-day the market closes strong, buyers at 114s. 6d. for warrants G. M. B. in Connell store, establishing a rise of 9s. 6d. per ton as above stated, an advance was likewise declared by the makers of 5s. per ton on makers' iron last Monday. The market opened on Monday with great power, the price rapidly reached 104s., and before the close touched 112s. 6d. Subsequently receding in the afternoon business was done lower, closing buyers 108s. 6d.; the tendency to advance manifested itself over the whole week, and the result of the large business done this week is the advanced price above referred to. The continuance of the colliers' strikes, and the fact that numbers of the furnaces are damped, and others likely to undergo the same process, appear to indicate that the make of iron is being curtailed in Scotland. No doubt these circumstances have mainly contributed to the upward movement in value, which we have lately had to record. The improved tone of the iron market in London and other places is another favourable element for the Glasgow market.

The improved tone of our market, mentioned in our report last week, continues unabated; inquiries are more numerous for all kinds of iron, and buyers are not wanting to operate for large parcels of manufactured iron for delivery over the first six months of next year. The market here is firm, with an evidently hardening tendency, and second-class Staffordshire bars have been sold in small quantities at advanced rates over those paid 14 days since. The merchants no longer hesitate to give out specifications; the makers, on the other hand, take new orders with caution, and invariably refuse to enter into large contracts for delivery in the new year at the present rates. Numerous large orders have been offered to the agents here of the Staffordshire houses on these conditions this week, which have been invariably refused; the business done on our market has been for small parcels only for immediate consumption. The ironmasters appear to be unanimous in their determination not to commit themselves to large parcels forward. The price of second-class Staffordshire bars is now 107. 15s. to 117. 5s. Hoops, sheets, strip, wire-rods, and galvanising sheets are all stiffened in price, the market being decidedly in favour of the makers. At market Staffordshire bars, B. H. John Bagall and Sons, the Mitre, Thorneycroft and Co., and S.C. crown remain firm at 122. per ton, with the usual extra for the S.C. crown brand. The Earl of Dudley's price continues 122. 12s. 6d. per ton. We should doubt very much whether these houses would book contracts at above rates except to their old and valued connections; and in the present state of the trade even these cannot expect large parcels at present rates, the prospects of the trade having changed for the better during the last 10 days. Our view of the coal trade, published last July, is verified; there has not, nor will there be, any reduction in the price of coal up to the end of March, simply because the general demand is, and will remain, undiminished. With regard to the future course of the trade, to us it looks encouraging. The demand for all kinds is increasing, but we should be sorry again to witness prices elevated to a point which would check the demand. We believe we are stating the opinion of the great bulk of the masters in this respect. Whether 122. per ton for Staffordshire bars, with present price of coal and labour, leaves profit to the maker is another question, which is entirely for their consideration, and will, no doubt, be dealt with on or before the Birmingham Quarter-Day. Probably, prices may not be disturbed by the leading makers during the year now drawing to a close. The rail-makers have more enquiries, and in Middleborough considerably higher prices are demanded. The Welsh makers are firmer in price, and we may state the price at 107. 7s. 6d. to 107. 10s., but very few of the Welsh houses care about selling in the present state of the market.

The tin-plate trade sympathises strongly with the iron trade, and both coke and charcoal have been in better demand at higher rates; coke has advanced in price as much as 3s. to 16s. per lot. The market remains firm and the tendency is upwards, some good American orders being on the market. The strike in Scotland among the colliers is a fact worthy of great consideration in our efforts to calculate the future course of values. The men here are now receiving 10s. per day. We personally visited on Thursday last the district of Coltsbridge, in Scotland, and from all we could see and hear, from reasons too long to explain in this circular, we think the strike may be protracted. At the Dalmellington furnaces, which we looked over, we found two furnaces damped down and a third undergoing the preparatory process. The scarcity of coal has rendered this damping inevitable at several of the Scotch works; our opinion, expressed last week, therefore, of the duration of the strike of these colliers is changed—133, Cannon street, E.C.

COPPER.—J. Piteairn-Campbell—Arrivals here during the fortnight of West Coast, S.A., produce:—Caroline, from Chamar, 900 tons bars; Thiti, from Valparaiso, 75 tons bars; Rosemar, from Valparaiso, 60 tons bars; Limari, from Valparaiso, 50 tons bars. At Swansea, Serena, from Calera, 150 tons regulus. Stocks of copper (Chilian and Bolivian) in first and second hands, likely to be available, are estimated at:—

Ores.	Regulus.	Bars.	Ingot.	Barilla.
Liverpool	19	150	15,000	750
Swansea	18	2573	5,200	85
Total	35	2823	21,255	835

Representing about 23,400 tons fine copper, against 11,700 tons December 15, 1871; 24,300 tons Dec. 15, 1870; 17,900 tons Dec. 15, 1869.

Messrs. James and Shakspeare.—About 100 tons of California ore have sold by private contract at 16s. 3/4d. per unit. The unitage for Cape at the Swansea Ticketing on Dec. 10 was stated in error in our last at 16s. in lieu of 16s. 7/4, the actual value. Sales of bars for the week amount to 1600 tons, of which 375 Lots at 82. to 83. cash, 84. 10s. with three months' prompt; about 1100 good ordinary brands and Urmoneta 83. 10s. to 84. 10s. cash, 85. to 85. 10s. for delivery a month to six weeks hence; and 125 tons best marks at 84. 10s. and 85. cash. The demand continues good, and sellers scarce at our list quotations. On Dec. 15 the Valparaiso telegrams arrived, giving charters for the first half of November as 1300 tons pure, all for England (900 in bars and ingots, 400 in ores and regulus), and stock on coast 4250 tons; the corresponding figures for the last year were 1405 tons and 9500 tons. The price of bars in Chili on Nov. 17 was equal to 84. 10s. laid down in England, customary conditions, but without commission to merchants on either side. Of Australian, 1170 tons sold, chiefly Wallaroo cake, the prices paid were 83. 10s. to 90. 10s. cash, and 90. 10s. to 91. 10s. with long prompt. The comparative cheapness of this description is evidently attracting attention, and a large portion of the purchases were on consumers' account. Smelters are asking an advance on their late prices for sheets, and are now tolerably well employed with manufacturer's orders. Some good purchases of tough and select have been made at 20. to 23. per ton under official rates, for delivery at Birmingham, and of select about 800 tons have been taken this week for shipment to America. According to last advices, it would seem the demand from that quarter is likely to be continuous.

TIN.—English is in moderate request, and smelters are asking the highest quotations in our list. Straits continued active till Monday last, on which day as much as 138s. 10d. was paid for spot parcels, but during the week the market has since receded, closing yesterday fully 3s. below the highest point. The business during the week comprises—200 tons, 138s. 6d. down to 135s. per cwt., cash terms; 90 tons, 138s. to 139s., to arrive by steamers; and 95 tons, 138s. to 134. with various fixed prompts to the end of March next. On Dec. 16 and 17 about 144 tons of Australian ore were disposed of by tender, and realised for good quality from 63s. 2s. 6d. to 69. 5s. per ton, but one small lot of very inferior stuff fetched only 54. 2s. 6d. per ton. In Banca and Billiton nothing has been done.

The MINING SHARE MARKET opened rather firmer this week for some of the old tin mines, and one or two progressive mines have had a good advance, but, on the whole, general business has not improved, and many mines which a few months ago were eagerly sought after at higher prices are now offering at very low prices, without finding buyers.

The shares mostly dealt in have been Wheel Crebor, Hington Down, South Frances, West Frances, Tincroft, Carn Brea, West Tankerville, South Roman Gravel, Wheal Grenville, West Maria, East Lovell, Cook's Kitchen, Prince of Wales, Rosewall Hill and Ransom United, South Carn Brea, Wheal Argus, New Rosewarne, New West Rosewarne, East Basset, and a few others.

Wheal Crebor shares have received a large amount of attention, and have advanced to 33. 41; this mine has been a heavy drag upon its shareholders for nearly 20 years, and the shares, always at a heavy discount, have fluctuated between 10s. and 20s., occasionally advancing to 30s.; but those who knew the situation of the mine, as we have often described it, adjoining Devon Great Consols, never lost faith in its ultimate success, and they are likely now to be rewarded. The 120 east is 6 feet wide, and worth 7 to 8 tons of copper ore per fathom. The 48 is

share was made. The tin sold, 5 tons, realised 428*l*. This, however, was only a part of that raised in the quarter, and when the engine and stamps now in course of erection (and charged and paid for) have got to work the returns, it is expected, will repay the shareholders for their outlay. The first stuff already discovered, the agent states, is equal to 100 tons of black tin. Belowda Beacon, 1½ to 2; Bog, 1½ to 1½. West Seton, 45 to 50; at the meeting, held on Tuesday, the accounts showed a loss on two months' working of 271*l*, and a balance in favour of the adventurers of 604*l*. The ores sold realised 4377*l*, but the costs for labour and coals were 2815*l*, and the bills for coals 600*l*, other materials 904*l*, and dues 288*l*, so that for the first time during a period of 18 years and four months no dividend could be paid. The mine altogether has paid the shareholders nearly a quarter of a million, and has still some favourable points.

South Frances have advanced to 18, 20; the dispute between this mine and West Frances—which at one time was made to assume such large dimensions on paper—is said to be in a fair way for an amicable settlement. West Frances shares are also better, at 16 to 17; Cook's Kitchen, 27 to 29; Devon Great Consols, 7 to 7½; Dolcoath, 65 to 67½; East Basset, 30 to 35; East Camdon, 4½ to 4½; East Chiverton, ½ to ½; call paid; East Pool, 13 to 14; East Seton, 25s. to 30s. New Rosewarne shares have again been much weaker, at 4 to 5; we stated in our last, on the authority of the agents, that notwithstanding the serious delays caused by the accidents to the machinery during the late heavy gales 40 tons of tin would be sold before the meeting, but we are now informed that, owing to the weather and other causes, the dressing-floors and burning-houses cannot at present keep pace with the stamps, and probably not more than 20 tons can be sold by the meeting, and the cost for machinery, &c., has been very heavy; the tin sold this week—9 tons—realised about 80*l* per ton. The points in operation at the mine on the tin lode are valued in the aggregate at 152*l* per fathom, and the end driving on the copper lode 25*l* per fathom. East Lovell, 18 to 19; the skip-shaft sinking below the 90, is looking well, and worth fully 120*l* per fathom. East Van, 6 to 6½; East Grenville, 1½ to 1½; Great Laxey, 14½ to 15½; Herodsfoot, 15 to 17½.

South Roman Gravels have advanced to 1½, 1½; the lode in the shaft has further improved, and is now worth 1½ ton of lead ore per fathom. This is the Round Hill lode of Tankerville. But the chief point of the mine is the cutting the Roman vein, which in Roman Gravels is producing 200 tons of lead ore per month. Towards this lode in South Roman Gravels a cross-cut has been driven (45 fms. deep) for a distance of 75 fms., and is supposed to be now close upon the lode. Roman Gravels, 18½ to 18½; the mine has sold this week 175 tons of lead ore, at 15*l* 1s. per ton. Tankerville, 14½ to 15; this mine has sold this week 100 tons of lead, at 15*l* 3s. 6d., and has further improved. Van, 36 to 38; the mine has just sold, as the produce of four weeks, 470 tons of lead, at 15*l* 9s., and 150 tons of blende, at 2*l* 18s., making altogether 7855*l* 7s. The sales during the year have been 6230 tons of lead, making 88,624*l* 12s., and 2110 tons of blende, at 7134*l*.

New West Rosewarne, 6 to 6½; the lode in the deep adit is worth 10*l* per fathom for the 4 ft. carried, set to drive at 4*l*; the slope in the back of the adit east is worth 30*l* per fathom, set at 7*l* per fm.; the slope west is worth 20*l* per fathom, set to work at 7*l* per fm.; the weather is interfering with the masons in building the burning-house. St. Agnes Consols, 4½ to 4½; the lode in the winze sinking below the 36 is worth 15*l* per fathom; the new lode in the 36 fm. level is worth 10*l* per fm. New Charlotte, 2 to 2½; Marke Valley, 3½ to 3½; Medlyn Moor, ½ to ½; Parbola, ½ to 1; the mine has been favourably reported upon by Capt. Tonkin, who advises the erection of a water-stamp, and considers, from the quality of the tinstuff raised, the costs of the mine will soon be met. Wheal Grenvilles are a little firmer, at 6½ to 7; the report states that the lode in the 140 cross-cut promises further improvement. Ilngston Down have again fluctuated from 7½ to 8½, and leave off 8 to 8½; the lode has improved to 60*l* per fathom. New Lovell, 1½ to 1½; New North Van, 1½ to 1½; North Levant, 14 to 15.

North Rosekar, 19 to 21; North Treleigh Wood, 24 to 2½; North Treskerby, 1½ to 2; Parys Mountain, 1½ to 1½; Penhalls, 3 to 3½; Pennerly, 2½ to 2½; Penstruthal, 1½ to 1½; Perran Wheal Vyvyan, 2 to 2½; Perkins's Beach, 18s. to 18s.; Prince of Wales, ½ to ½; Providence Mines, 19 to 21. Rookhope, 2½ to 3; the monthly sale of 30 tons of lead ore realised 13*l* 11s. 6d. per ton, or 9s. above last month. When the new crusher and jiggling-machines, now in course of erection, are at work the returns can be at once doubled, and still further increased when the next level is opened. The wheel at Brandon Walls is erected, and good returns are expected from this part of the property. Rosewall Hill and Ransom, 1½ to 2; South Carn Brea, 4 to 4½; South Condurrow, 8 to 8½; South Crofty, 60 to 65; Van Consols, 5 to 5½; West Basset, 8½ to 9.

West Chiverton, 11 to 12; West Maria and Fortescue, 22s. 6d. to 27s. 6d.; West Polbrean, 4 to 4½; West Tankerville, 3½ to 3½; Wheal Basset, 50 to 55; Wheal Buller, 17 to 19; Wheal Kitty (St. Agnes), 14 to 15; Wheal Mary Ann, 8 to 10; Wheal Uny, 4½ to 5; Treleigh Wood United, 1 to 1½. North Rosewarne, 5 to 6, call paid; at the meeting the accounts showed a balance against the company of 1007*l* 17s. 4d., and a call of 15*l* 5s. per share was made. Plymmon, 17s. 6d. to 22s. 6d.; the 12 fm. level is worth 18 cwt. per fathom, and the end is now in whole ground to surface—30 fms. high. The winze below the 12, 18 fms. in advance of the 24, is worth 15 cwt. per fathom. Forty tons of ore will be sampled on Monday.

In Foreign Mines, Enmas have fluctuated 1, and leave off 16 to 16½. Camp Floyd shares are down to 1½, 2; Don Pedro, par to ½ prem.; Flagstaff, 13½ to 14½; General Brazilian, ½ to ½; New Quebrada, 3 to 3½; Rica Gold, 16s. to 18s.; Pacific, 1½ to 1½. Chontales, 5½ to 5½; the advances this month show a return of 1056*l*; and costs, including freight of iron rails 40*l*, 1009*l*. The report of the mines is very favourable, and upon an outlay of 2000*l*, which has been remitted, the new agent, Mr. Smedley, hopes to commence a prosperous career. The advances from Javali Mine show a profit of 497*l* on the month. The gold return is valued at 1150*l*; cost of working, 63*l*, which included 120*l* for freight, &c. The directors have made a call of 5s. per share.

The Market for Mine Shares on the Stock Exchange during the week has been again depressed for American descriptions, while for home mines the demand has been on a limited scale, at about last week's quotations.

Emma shares have further declined, and close at 16 to 16½; the weekly cable message announces that 380 tons of first-class ore were raised, also 150 tons of rich ore. Several disconcerting rumours are in circulation as to the financial position of the company, but being unauthenticated, should be accepted with reserve. It is said the directors are about to propose the payment of quarterly instead of monthly dividends—a measure which will prove advantageous to the general interests of the enterprise.

Flagstaff shares, after having been forced down by speculative sales to 12½, rapidly advanced to 14½ upon a few *bona fide* purchases, and close at 14 to 14½; firm; the weekly product of bullion is 76 tons, which is above the average, and the advances from the mine continue of the most encouraging character. The warrants for the eleventh dividend will be posted to-day; the aggregate amount already paid is 69,000*l*. Last Chance shares have changed hands at lower quotations, although the latest intelligence is that the mine is developing far beyond the anticipations of the manager.

Camp Floyd, 1½ to 2½; the superintendent's report appears in another column, and, on the whole, more favourable. Utah, ½ to 1½; in another column are published the particulars of the special meeting held on Monday; Mr. Murphy's report sets forth the prospects as exceeding favourable, and in this respect confirms the report of Prof. Clayton. There seems reason to believe that if the new capital is raised the company will yet prove remunerative.

Richmond Consolidated shares have been firmer, and close 3½ to 3½. Eberhardt and Aurora, 6½ to 7; two of the directors proceed to Nevada next week to supervise and control the management at the mines. South Aurora, ½ to 1½; the arrangements for using this company's mill have been completed, and upon terms that will give a profit sufficient (with the interest on the balance at the bankers) to enable the directors to pay a dividend three months hence.

In Hydraulic Mines there has been a considerable amount of business transacted. Sweetland Creek shares continue firm, and difficult

to obtain at quoted prices. Good progress is being made in driving the tunnel, which is rapidly approaching completion. Cedar Creek, 3½ to 4; by the last advices rains were daily expected, and the claims are all rigged up for working on an extensive scale. Birds-eye Creek, 2½ to 3; under date of Nov. 29 the agent writes that it had been steadily raining for some hours, and the expected rains were just setting in, and every preparation is here also made for immediate washing, and a profitable season. Aruba Gold shares continue to be enquired for at 10½ to 11.

Among Brazilian descriptions St. John del Rey shares have declined from 22, 24, to 20, 21; the details of the meeting appear in another column. It was decided to convert the shares into stock. Don Pedro, ½ dis. to ½ prem.; the produce for October amounted to 1385*l*, and the cost to 3167*l*, showing a loss of 1782*l*. The manager regrets to again report low returns, but expects to increase the produce a little next month. Owing, however, to the ore in reserve being of low quality, good results cannot be expected until the stopes in the bottom of the mine shall have been drained, unless some new discovery be made. General Brazilian, 3-16ths to 5-16ths; Captain Thomas Treloar's safe arrival at Rio de Janeiro is announced, and advices may be expected from him by the next mail. Rossa Grande, ½ to ½ dis.; ditto (17s. paid), 11-16ths to 9-16ths dis.; the cost for October amounted to 530*l*. The ground at various points has been unfavourable, but the lodes are opening out well. Anglo-Brazilian, ½ to ½; the October cost amounted to 913*l*. There is no special feature in the advices.

Almada and Tiritio, ½ to 1; the profit for the month, after deducting London expenses, amounts to 1895*l*. Chontales, ½ to ½; during October 377 ozs. of gold were returned from 2107 tons of ore; average yield 3½ dwts., value 1056, cost 1009*l*.

Sierra Buttes, 3½ to 3½; the November "clean-up" amounts to 23,154*l*, the cost of mining and milling being 9962*l*, this result was obtained from a partial run with two mills only, owing to repairs. At Plumas Eureka the receipts during the same period were 22,006*l*, and the cost, 21,287*l*.

Mammoth Copperopolis Company has declared a dividend for the quarter ending Sept. 29, at the rate of 10 per cent. per annum.

In Lead Mines there has been a steady market for Van, Roman Gravels, Tankerville, and Pennerly, the better class of lead-producing mines. Van 37½ to 40; the usual monthly report appears in another column, and is very satisfactory. The sale this week, 470 tons of lead and 150 tons of blende, realised 7698*l*. The average price obtained for the lead was 15*l* 9s. 1½d. per ton. This mine has sold during the year mineral realising 95,758*l* 12s. East Van, 6 to 6½. Van Consols, 5 to 5½; operations are progressing satisfactorily. The lode in the 60 fm. level (the deepest part of the mine) has improved from 1 to 1½ ton per fathom. Other points are fully maintaining their value. Tankerville, 14½ to 15; West Tankerville, 3½ to 4. Pennerly, 2½ to 2½; the mine is much the same; the excessive wet weather is interfering with the workings. Bog, 1½ to 1½; the clearing of the shaft below the 130 is progressing well. The shaft is found to be in very fair condition. Perkins Beach, ½ to 1½; the ground in the south cross-cut still continues very good in character for mineral, and fair progress is being made.

Tin Mines have been represented by Dolcoath at 65 to 67½; Tincroft, 54 to 56, ex div.; Cook's Kitchen, 27 to 29; Carn Brea, 155 to 160. Great Vor, 6½ to 6½; at the meeting, on Thursday, the details of which appear in another column, the accounts showed a credit balance of 957*l*, after charging up all liabilities. Great importance is attached to the cutting of the lode west of the cross-course, and west of Edwards's shaft. East Lovell, 18 to 19, and in demand.

In Copper Mines, the most noteworthy feature has been the advances in South Frances shares, which upon the week show an improvement of 11*l* per share, the closing price last week having been 7 to 8, the present quotation being 18 to 20, upon a rumour that the dispute is likely to be settled. San Pedro, 4½ to 5; these shares have been largely bought at 4½ to 5. The last advices from the mine are of a favourable character. Cape Coppers are also in demand at 27½ to 28½. Subjoined are the closing quotations:—

Alamillos, 1½ to 2; Almada and Tiritio, ½ to 1; Anglo Argentine, ½ to ½; ditto, 15 per cent. preference, ¾ to ¾; Anglo-Brazilian Gold, ½ to ¾; Australian, 1½ to 1½; Australian United Gold, ½ to ¾; Cape Copper, 20 to 21 prem.; Camp Floyd, 1½ to 2½; Chontales Consolidated, ¾ to ¾; ditto, 1*l* 10s. paid, 1½ to 1½ dis.; Colorado Terrible, 1½ to 2½; Copiapo, 2 to 3; Don Pedro, ½ dis. to ½ prem.; Eberhardt and Aurora, 6½ to 7; Emma, 16 to 16½; Fortuna, 4½ to 5, ex div.; Flagstaff, 14 to 14½; Fronting and Bolivia, ¾ to ¾; General Mining Association, 6 to 8; General Brazilian, 3-16ths to 5-16ths; Kapaunda, ¾ to ¾ dis.; Linares, 2 to 3; London and Californian, ¾ to 1½; Lusitania, 2½ to 1½ dis.; Pacific, 1½ to 2; Panuclillo, 3½ to 4; Pestarena, ½ to ¾; Pontigbaud, 18 to 20, ex div.; Port Phillip, ¾ dis. to par; Richmond Consolidated, 3½ to 3½; Rossa Grande, ½ to ½ dis.; ditto, 17s. paid, 11-16ths to 9-16ths dis.; Russia Copper, 5 to 5½; Scottish Australian, 1½ to 1½; St. John del Rey, 20 to 21; Sierra Buttes, 3 to 3½; Sweetland Creek, 3½ to 3½; United Mexican, 3 to 3½; Utah, ½ to 1½; Vancouver Coal, 1 to 2 prem.; Yorke Peninsula, ¾ to ¾; Yudanmutana, ¾ to ¾.

DUBLIN, DEC. 19.—Business has been rather dull upon our Stock Exchange during the past week, and not much animation in almost any department. Coming on the end of the year, and the Christmas holidays next week, there is not much disposition to enter into fresh transactions. Consols have been dull, and leave off ¾ decline. New Three per Cents. have declined a shade. India stock are firm, and have not changed much in prices. Foreign bonds are steady. Erie shares are somewhat lower, and Honduras bonds have been in request at 1 per cent. advance. Russians are a shade lower. Spanish dull, at ¾ decline. American bonds are firm, and have not varied much in price. Bank of Ireland stock has declined 2½ per cent. Hibernian shares are 1*l* 18s., but Munster are ¾ better. Nationals are in demand, and have advanced 1*l* 5s. per share. National of Liverpool are a shade better. Provincial old shares are a shade better. Royals are firm at 28*l*. British and Irish Steam shares have risen 1*l*; and City of Dublin stock is firm at last price. Dundalk shares have advanced ½. Mine shares are rather dull. Berghaven have declined 2s. Cape Coppers are 1*l* lower. Mining Company of Ireland are dull, at ¾ decline. Wicklow Coppers have been in strong demand, and have advanced 1*l* per share; it is said these shares have been over sold, and this account. As there is no change in the state of the affairs of the company to warrant this rise, the books of the company have been placed in the hands of the eminent accountants here, Messrs. Craig, Gardner, and Co., of Trinity Chambers, to prepare a proper balance sheet for the adjourned meeting on Jan. 11. Telegraph shares are firm, and have not changed much. Alliance Gas shares are dull, and have declined 15s. per share. Dublin Tramway shares are ¾ better. Grand Canal stock and National Assurance shares are unchanged. Parbola shares are a shade weaker. Railways are dull. County Down have declined ¼; Northern Company, ½; Belfast Junction stock, 1½ per cent. have declined ¼; Drogheda stock is firm at ½ advance. Great South and West stock advanced 1 per cent. Wicklow shares firm, at ¾ advance. Midland Great West shares firm at last prices. Waterford and Central stock advanced 1 per cent. Waterford and Limerick are firm at 39½. Railway preference and debenture stocks are all firm and steady at last prices. The traffic returns are steady, and about the same as this time last year, except in the case of the Midland Great West line, which shows a decline of 1257*l*. Dublin Tramway receipts are about 20*l* less than last week.

The WEDGWOOD COAL AND IRON COMPANY are inviting subscriptions for 60,000*l*, in debentures of 25*l* each, bearing interest at 10 per cent. per annum, secured upon the whole property of the company, which is now working, and is situated in the heart of the coal and iron district of North Staffordshire. It consists of about 350 acres, and is held on lease for 29½ years from June 21, 1871. Mr. John Brunton, M.L.C., who has inspected the property, estimates the total workable quantity of coal at 30,000,000 tons at least, and the amount of ironstone which can be calculated upon as 4110 *l* 10s. The Brownmine and Burnwood seams at 2,557,427 tons. He considers that with the present appliances 200 tons of coal and 150 tons of calcined ironstone may be produced per day, and that the new pit now being sunk at Wedgwood can be completed in four months, and he anticipates that the additional output therefrom will be 100 tons of coal and 60 tons of calcined ironstone per day. An immediate sale for this output can be commanded on the spot, surrounded as the estate is by potteries and blast furnaces, with an unlimited demand for coal and ironstone. The anticipated revenue for 1873 is put down by Mr. Brunton at 46,500*l*, and allowing 10,000*l* for debenture interest and London expenses, there would remain a net profit of 36,500*l*, available for dividend and the development of the property. There are 22 seams of coals of the aggregate thickness of 89 ft. 2 in.; four pits are now in operation, with machinery and appliances to work them to their full capacity; and the property is admirably situated on the Biddulph Valley branch of the North Staffordshire Railway. The prospectus will be found in another column.

The LLYN-Y-PANDY LEAD MINING COMPANY has been formed, with a capital of 50,030*l*, in shares of 1*l* each, to acquire and develop a valuable mineral property in Mold, Flintshire. The prospectus, which will be found in another column, states that from whatever point it is regarded, whether it be its geological and topographical position, its mineral surroundings, representing mines of the highest celebrity, some of which have for a series of years paid hundreds of thousands per annum in profit to the shareholders, or from its vast resources already being favourably and rapidly developed, the opinion recorded by those eminent surveyors and old miners who have inspected and have long known in practice and by repute this property is borne out in every particular, and to the investing public is secured a guarantee for which it would be difficult to find a parallel among progressive mines. The property has been carefully inspected and favourably reported upon by Capt. Matthew and Henry Francis, who are in the opinion that "the property is one of exceptional value, satisfying every condi-

tion of success, and not even the severest critic can find points any other than to admire in it," and the inspector states with the greatest confidence that "there is an absolute certainty of its proving a great and lasting mine."

At the Truro Ticketing, on Thursday, 3416 tons of copper ore were sold, realising 15,037*l* 15s. 6d. The particulars of the sale were—Average standard, 109*l* 9s.; average produce, 6½; average price per ton, 4*l* 8s.; quantity of fine copper, 223 tons. The following are the particulars of the sales:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper
Nov. 21.	348	102 14 0	6½	4 1 0	12s. 4½d.	261 16 0
Dec. 5.	1090	105 5 0	6½	4 2 0	12s. 7	63 7 0
19.	3416	109 9 0	6½	4 8 0	13 6	67 9 0

Compared with the last sale, the advance has been in the standard 3*l* 3s., and in the price per ton of ore about 4s.

Messrs. Bischoffsheim and Goldschmidt announce that the coupons due on Jan. 1 next on the Atlantic and Great Western Railroad Company's Seven per Cent. First Mortgage Bonds, also the coupons and drawn bonds of the Leased Lines Rental Trust Bonds of the Atlantic and Great Western Railroad Company for \$5,500,000, or 1,100,000*l* sterling, will be paid on and after that date, at their counting-house.

Messrs. Bischoffsheim and Goldschmidt announce that the interest accruing on the Seven per Cent. First Mortgage Fractional Certificates of the Atlantic and Great Western Railroad Company, between Jan. 1, 1872, and Jan. 1, 1873, will be paid on and after that date, at their counting-house.

Messrs. Grant Brothers and Co. request holders of the scrip certificates of the Seven per Cent. First Mortgage Building Bonds of the Western Union Telegraph Company of the United States who have not yet exchanged them for the Definitive Bonds do so on or before Dec. 31.

The coupon No. 2 for the half-year's interest on the City of Quebec Six per Cent. Sterling Consolidated Fund Loan—3*l* per coupon, less income tax, due on Jan. 1 next, will be paid at the fixed exchange of 4s. 2d. per dollar, equal to 3*l* 12s. 11d. per coupon (less income tax), on and after that date, at the banking-house of Messrs. Grant Brothers and Co.

Messrs. Grant Brothers and Co. announce that the coupon for the half-year's interest on the Seven per Cent. First Mortgage Sinking Fund Gold Bonds of 100*l* sterling each, or \$500, of the Paris and Deauville Railroad Company, due on Jan. 1 next, will be paid at the fixed exchange of 4s. 2d. per dollar, equal to 3*l* 12s. 11d. per coupon (less income tax), on and after that date, at the banking-house of Messrs. Grant Brothers and Co.

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Tenders are requested to apply, by letter, to T. O. AASLAND and Co., Mø, Upper Thelemarken, Norway, stating price given, and quantity required of the refined or rough stones.

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Apply, stating terms, to Capt. ROGERS, Great Western Mines, near Marazion, Cornwall.

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Address, with testimonials, Mr. T. B. Laws, the Secretary, 22, Great St. Helens, London, on or before the 27th instant.

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Notices to Correspondents.

* * Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

METALLIC BISMUTH.—I shall feel obliged if you or any of your subscribers can tell me the present market price of Metallic Bismuth.—G. F. W., Birmingham, Dec. 12.—[The present price of metallic bismuth is about 12s. per lb.; but if large demand could be obtained there would be no difficulty in supplying it at 10s. or 12s. per ton.]

LEAD SMELTING.—"R. R." (Glasgow).—The first paper on "The Mechanical Operations as Conducted at the London Mining Company's Mill at Teesside," appeared in the Journal of Sept. 14.

SILVER VEIN (OTHERWISE OLD WHEAT FORTESCUE).—What has become of this company? The mine was, if I mistake not, situated in the Lostwithiel district: the last I heard of it was in the year 1864, it was then considered to be entering on a course of uninterrupted prosperity. If any reader of the Journal will favour me with any information he possesses respecting the adventure, or any of its present directors, if any, he will oblige.—ECHO.

DEER PARK.—The undersigned having been removed from the directorate by his co-directors, for being absent from board meetings three months without leave, begs to make this announcement.—HENRY S. DYER.

Received.—"J. D. D."—"J. B." Attended to—"J. S. P." (San Francisco)—"Investor"—"T. T." (Havre)—"E. H."—"R. K."—"J. S. C."—"G. G." Attended to—"N. B." (next week)—"H. B. S."—"T. C. E."—"J. H."—"E. A." (Southport)—"C. D. V." (Utah)—"W. C."—"F. S. D." (Newry)—"C. B."—"W. H. J."

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, DECEMBER 21, 1872.

METALLIFEROUS MINES.

The Government authorities have just issued an abstract of the Metalliferous Mines Regulation Act, 1872. It shows that the Act applies to every mine, of whatever description, not subjected to the Coal Mines Regulation Act, and that the provisions of the measure extend to the Isle of Man. Both Acts come into operation with the opening of next year. The metalliferous mines are to be subject to Inspectors, who will have districts assigned to them, and who will possess the usual authority of such Government officers. The conditions of employment, and with reference alike to age and hours, are the same in both measures in respect of boys and young persons. No one is to have charge of any winding-tackle under 18 years of age, except in cases where a gin is worked by an animal; in such case the driver must not be under 12 years. Wages are not to be paid on premises used for the sale of intoxicating drinks, or any contiguous place. The fencing of abandoned mines is under the same regulations as those which apply to coal mines. Special rules are to be adopted, subject to the approval of the Secretary of State, and, together with a copy of the abstract of the Act now under review, be kept posted up on the premises, and one copy of the rules, if applied for, to any workman. A breach of a general or special rule is an offence, and subjects an offender employed in or about the mine to a penalty not exceeding 2l., and owner or agent to a penalty not over 20l., together with 1l. per day for every day that such offence continues to be committed after a written notice from the Inspector. An appeal lies in cases where imprisonment or a maximum penalty has been adjudged; and an offence can only be summarily prosecuted within three months after the date that it was committed. The offence by an owner or agent cannot be summarily prosecuted unless authorised by an Inspector of Mines, or with the consent of the Secretary of State. The owner or agent may, if he think fit, be sworn and examined as an ordinary witness if charged in respect of any contravention or non-compliance by another person. The Act likewise requires the keeping the registers of the employment of the people under age, and all women.

It is, therefore, hardly requisite to specify that no women are allowed to be employed underground. An annual return is likewise to be made before the 1st of August every year as to the persons employed, and the minerals sold or produced from the mine. Plans are to be kept, and a section, or tracing, showing the works up to at least six months previously, must be preserved in the principal office, ready for the examination of the Inspector, who may require the workings up to the time of production to be marked on the plan. There must, likewise, be plans on abandonment deposited with the Secretary of State, as in respect of coal mines, accompanied with the same regulations in relation to their being kept within cognizance only of an Inspector, or upon licence from the Secretary of State, until ten years after the lapse of the working. There is the usual requirement as to the giving notice of accidents to the Inspectors. The general rules are of the same class, so far as they can apply to metalliferous mines, as those which regulated the mines above and below ground were embraced in the Mines Regulation Act. Where one portion of the shaft is occupied by ladders, or a man-engine, and another portion for raising the material gotten, the former portion is to be cased, or securely fenced off from the latter; and it is provided a ladder permanently used is not to be fixed in a vertical or over-hanging position, but at the most convenient attainable angle, with substantial platforms at intervals of not more than 20 yards. The abstract is accompanied with copies of the forms which the owners or agents are required to fill up and forward to the Inspector at stated intervals.

THE "COLLIERY MANAGER" OF THE FUTURE.

The views which we expressed a short time ago with reference to the class of men who would in the first instance be appointed certificated managers at the great majority of our collieries, and to which some exception was taken by a colliery owner in Yorkshire, have been fully verified by no less an authority than the Home Secretary. A great many persons stated—and they were leading coal owners in most instances—that the managers would have to be what are termed practical mining engineers, of whom there were not sufficient to man a tithe of our collieries, and that it would be necessary next session to have some alterations made in the Bill, which comes into operation in a few days. On the other hand, in our article of the 30th ult. we stated that the underviewer was the person who would, in all probability, be the registered manager, seeing that he had under his control the entire of the underground workings, ventilation, and all that related to the raising of coal, safety of the mine, &c.; and we also said that we had it on good authority that such were the opinions of Mr. WARDELL, the Government Inspector for Yorkshire. Since then we have received a letter from Mr. WARDELL, the Government Inspector, in which he says—"The certificated manager must have the control of the mine both above and below ground, and is not to be the underlooker or overman." Precisely so. The underviewer is, therefore, the person, as we have before stated, who will in most places be the person appointed as manager, so that the necessity for "raising" as speedily as possible a large number of professional mining engineers is not so urgent as appeared to many persons. This is most thoroughly and definitely borne out by one of the series of papers just issued from the Home Office to colliery proprietors, defining the persons to whom certificates as managers will be given on application. The following extract will show the interpretation of the term "manager," as given by the Home Secretary:—"By Jan. 1 next your mine must be under the charge of a certificated manager (sec. 26), unless the average daily output does not exceed 25 tons, or less than 30 persons are ordinarily employed below ground. Any application for certificate of service (sec. 31) should be made to the Secretary of State immediately, so that he may be able to grant the same at the commencement of the new year. Any person who has acted as viewer or underviewer during the time prescribed by the statute may apply for a certificate of service; but those who have acted as underlookers, or underground overmen, will not be deemed qualified to receive certificates of service."

Now, had the Bill contained such a clause, defining those to whom certificates as managers would be given, it would have saved a great deal of discussion, and the fears that were entertained by many owners, that there would not only be a very great difficulty in securing the services of an engineer, but a very serious addition to the expenses incurred in carrying out the Act. It was evidently an omis-

sion, for whilst the agent is described in the Bill as "Any person having, on behalf of the owner, care or direction of any mine, or of any part thereof, and superior to the manager appointed under this Act;" and, consequently, the *alter ego* of the owner, it is only by the paper just issued from the Home Office that the person who can and cannot be manager is made known. Consequently, our own views, given three weeks ago, being in every way in accordance with the definition of the Home Secretary as to "underviewers" being appointed managers, will render comparatively easy what appeared to many a very great difficulty. It appeared to us to be the only common-sense view that could be taken, for the underviewers at the present time, as a rule, are the managers so far as relates to the workings from the top of the shaft to all parts of the mine, and in many instances he has to see to the top-works as well. In the majority of instances, then, there will be very few changes from the arrangements at present in force; but as a few by no means onerous duties may appertain to some of the managers it may be as well to state that by the 72nd section the term "mine" includes—

"Every shaft in the course of being sunk, and every level and inclined plane in the course of being driven for commencing or opening any mine, or for searching for or proving minerals, and all the shafts, levels, planes, works, machinery, tramways, and sidings, both below ground and above ground, in and adjacent to the mine."

With respect to mines where not more than thirty persons are employed below ground, or where the daily output is not more than 25 tons, such it appears are not required to have certificated managers, unless the Inspector of the district requires one to be appointed. This, it will be seen, places great power in the hands of the Inspector, and from which there is no appeal. It is evident, as has been stated by one gentleman in writing on the subject, that the small colliery owners have been less vigilant in looking after their interests than the larger ones, or the representatives of the men; and we may readily assume that the former were neither consulted, nor did they take any notice of the Bill from the first, or some of them must have seen the disadvantageous position they were placed in by the section alluded to. Taken altogether, however, the Act is most comprehensive, and is built up of details, embracing every necessary requirement, whether for the education of the young or the safety of all, whilst the responsibilities of those to whom the clauses apply appear to be well and fairly apportioned.

COAL IN THE UNITED STATES.

Increasing attention is being directed to the utilisation of the vast stores of coal which the United States undoubtedly possesses. Prof. ANDREWS, State Geologist of Ohio, has been lecturing before the Cincinnati Board of Trade, for instance, upon the Ohio coal fields. The Professor is of opinion that coal is formed from vegetable tissues, leaves, bark, and vegetable tissues being visible in coal itself. Coal vegetation, according to the Professor, grew where it is now found, and was not a mass of vegetable *detritus*, carried from the land and buried under the sea, as some think. Coal vegetation grew in marshes and on low islands skirting an ancient shore. Fishes and marine shells are found in coal and accompanying slate. The marshes were sometimes flooded, and beach-worn sticks carried into the marshes are now lodged into the coal. The marsh settled down, the Professor thinks, and the vegetation was buried by sands and clay sediments, which now form sandstones and shales. This subsidence was a regular and uniform thing until arrested, and the waters were silted up with sand and mud. A new marsh formed, making another seam of coal, and hence a beautiful parallelism between the seams of coal, each representing a water line. The coal thus formed in Ohio and the neighbourhood is of three kinds—highly bituminous and coking, splint, and cannel. These pass into each other by almost imperceptible gradations. Coking coal is formed from the vegetation which has before burial undergone the least change from decomposition. A tree or branch buried in impervious clay always makes bright resinous coal. Pittsburgh and Youghiogony coal is of this general class; it is good steam coal where it can be stoked, but it is not so pleasant for the grate as the dry burning coal. It is good for coke, and generally for gas. Splint coal is formed from vegetation more changed, and which has been more subjected to wetting and drying. It is generally laminated, and breaks into tabular blocks in fracture, and dry burning; it is generally rich in carbon, and from its non-cementing nature it is especially adapted to the blast furnace. As regards cannel coal Professor ANDREWS is of opinion that in the ancient marshes there were areas where the waters stood more or less, and that there accumulations of vegetable mud or muck such as are found in bogs now. All vegetable structure has vanished from this muck, and when dry it forms a dark and impalpable powder. The muck beds in the ancient marshes, when burnt up and compressed, and bituminised, formed cannel coal, which shows no structure, seldom any lamination, and breaks with a conchoidal fracture. This coal when free from impurities makes a popular parlour grate coal, and gives to gas a high illuminating power. Ash in coal, the Professor considers, is derived from the ashes or inorganic matter in the original vegetation and from the sediments which were brought into the old coal marshes. A coal from Jackson county gave 0.77 per cent. of ash; from this minimum it ranges to even 20 or 30 per cent., and when it is excessive it destroys the value of the coal.

In treating more in detail of the Ohio coal, the Professor passed up the route of the Cincinnati and Muskingum Valley Railroad to Lancaster, and thence to the great Perry County and Hocking Valley coal fields. In the neighbourhood of the McLunay station there is coal in the hills bordering the line, which is of good quality and popular where used. Ten miles south of New Lexington by a railroad now in progress the great Sunday Creek coal seam is reached; the maximum development of coal in the State being about 12 ft. 10 in. of pure coal. The quality is very superior, and the coal is readily adaptable to all the higher purposes to which coal is applied. In another year this coal will be reached, and it can then be mined and shipped to great advantage. Excellent coal is found in the Moxahala Valley, south of New Lexington. In the neighbourhood of Straitsville good coal is also found in great abundance. A railroad is projected from Lancaster to the Straitsville district, which will reach the coal field in 17 miles. By using the Hocking Valley road all the rich treasures of the Hocking Valley and Straitsville district will be made accessible. A branch of the Marietta and Cincinnati Railroad from Byers station up Pigeon Creek reaches in from three to five miles the Sells coal, the equivalent of the Anthony seam. This is one of the purest and best coals found in Ohio. The shaft-coal in Jackson county is very pure and excellent; it is used for making iron in blast furnaces, and resembles the Briar Hill block coal, but it is less blocky. Anthony coal, one of the purest and best coals of the State, extends through the hills to the north for a considerable distance; it is seen on Buffalo Skull Creek, Pigeon Creek, &c. Hill coal is another very pure coal, and would make a popular fuel; it has little sulphur and little ash. Over the ridge on Symmes Creek is the Sheridan coal, which is thicker, and found to be very full and good. This coal ranges through Walnut, Greenfield, and, possibly, also townships in Gallia county. By a branch south of Jackson the Webster furnace block coal could be reached; this is the geological equivalent of the Briar Hill coal, and is of superior quality. On the Little Scioto, near Webster furnace, there is some fine coal, but it is needed at home for smelting the ore of the district. The coal of the Newcastle vein is successfully used for general purposes. Professor ANDREWS has a great deal more to say about Ohio coal.

EXPORT COAL TRADE.—The exports of coal from the United Kingdom in November amounted to 1,092,087 tons, as compared with 1,172,380 tons in November, 1871, and 976,335 tons in the corresponding period of November, 1870. The exports to Germany figured in these totals for 156,121 tons, 217,857 tons, and 216,597 tons respectively; and those to France for 180,781 tons, 193,213 tons, and 93,428 tons respectively. In the eleven months ending Nov. 30 this year, the aggregate exports were 12,381,591 tons, as compared with 11,822,381 tons in the corresponding period of 1871, and 10,760,832 tons in the corresponding period of 1870. In the first eleven months of this year the exports to Germany figured for 2,000,609 tons, against 2,326,882 tons, and 1,479,393 tons respectively; and those to

France for 2,017,587 tons, against 1,770,498 tons, and 1,993,234 tons respectively. Our exports of coal have increased this year to Sweden, Denmark, France, Spain, and Italy; but they have decreased to Russia, Germany, Holland, Brazil, and British India. The value of the coal exported from British ports in November was 1,111,740*l.*, as compared with 599,580*l.* in November, 1871, and 477,025*l.* in November, 1870; and in the 11 months ending November 30 this year, 9,621,916*l.*, as compared with 5,735,380*l.* in the corresponding period of 1871, and 5,165,989*l.* in the corresponding period of 1870.

THE ALBERT GOLD MEDAL.—Mr. Henry Bessemer was received at Marlborough House by the Prince of Wales on Monday, when his Royal Highness, as President of the Society of Arts, presented him with the Albert Gold Medal awarded to him by the Society for the eminent services rendered by him to arts, manufactures, and commerce in developing the manufacture of steel.

WEST SWANSEA COLLIERY.—Three of the directors visited the colliery last Friday, and thoroughly inspected the operations. They found the progress made satisfactory. No considerable number of colliers could be put on cutting coal until the air in workings was made right. The manager believed in the course of a few days this would be rectified; in any case, as soon as the new pits which are being sunk, is completed, the workings will be thoroughly ventilated, and men can at once raise coal from the two pit. This shaft is sunk over 18 yards, walled to surface, and is expected to be completed in the course of a week or two. The coal now being raised and sold is of first-rate quality, free from all impurities, the small being especially valuable; at present it is being sold as house coal for the large price of 15*s.* per ton. By the end of January there is every reason to believe the returns will be very remunerative. The directors were thoroughly satisfied with the management.

IMPROVEMENTS IN STAMPS.—A correspondent writes: "We started the first set of Walker's Central Stamps on Wednesday, at the Goblet Mine, and I must say that I never saw stamps work like them before. The little power required to work them, and the great speed they go at, I believe will add double work in mines with the present power; indeed, I will say there is nothing like them in the two counties. But more next week."

GOVERNOR AND COMPANY OF COPPER MINERS IN ENGLAND.—At an extraordinary general Court, held in pursuance of the charter, the following were elected as the Court of Assistants of the company:—Mr. Alexander Beattie, Governor; Mr. Charles Gilpin, M.P., Deputy-Governor; and Mr. Thos. Barkworth, Mr. Edgar P. Stringer, Major H. W. S. Stewart, Mr. C. R. M. Talbot, M.P., and Mr. James Whatman, M.P., assistants.

IRON TRADE.—The Algerian Company has organised a company for working the Souahm iron minerals in Algeria. The new company proposes to erect blast-furnaces on the spot, as well as to export the Souahm minerals to other countries. Algerian iron minerals have for some time been in considerable favour.

DIAMONDS FROM THE CAPE.—We have on more than one occasion been favoured with much information regarding the Diamond Fields by Mr. Streeter, of Conduit-street, who, it may be remembered, dispatched a party of explorers direct to the fields some two or three years since. The last mail has brought him some fine diamonds in the rough, amongst which are two very remarkable specimens. One is a fine stone, deeply embedded in a piece of soapy kind of earth (yet to be ascertained), and the other is the diamond matrix; the latter presents the appearance of a dark ore, at the top of which is a cluster of fine stones, surrounded by some hundreds of small ones. These objects will, doubtless, be of service to geologists, as they may form some solution of the already obscure problem, "How Nature made diamonds." We are requested by Mr. Streeter to state that the above are now on view, and he will be happy to show a splendid collection of Cape stones, sent home by his party, cut and mounted as ornaments.

REPORT FROM CORNWALL.

Dec. 19.—Statistics of the work done by the Stannaries Court in 1871 have just been published. They show that a very considerable amount of work was done—far too considerable, indeed, for a great many people, for this Court, outside Truro, stands in greater disfavour than ever, and the desire for its abolition is increasing day by day. In truth, as the conduct of western mining matters becomes more assimilated to that of other business associated undertakings—and to this end nothing has contributed more largely than the Limited Liability Principle—the need for a special court of remedy and supervision decreases; and there is nothing now which comes before the Vice-Warden, or his Registrar, which a County Court Judge could not do as well; whilst there are many things which in the County Court would be done a great deal better. And any change could be the more easily effected just now, since in Mr. M. Bere Cornwall possesses a County Court Judge who has considerable experience in matters connected with its peculiar industry.

The statistics to which we refer, and which are based upon the official returns are as follows:—Cornwall: In Equity: Petitions Entered—creditors' suits, 7; pursuers' suits, 5; sent for account, 1; appearances entered, 15; answers filed, 6; replications, 4; affidavits filed, 25; injunction issued, 1; interlocutory orders, 5; Registrar's summonses, 6; Registrar's orders, 1; Registrar's certificates, 5; petitions heard, 2; decrees obtained *pro confesso*, 3; petitions dismissed, 1; petitions pending at the end of the year, 5. Registrar's reports—Creditors' suits, 4; pursuers' suits, 1; three sales of materials under decree of the Court; creditors' suits, 1. Gross amount received under decree of the Court: amount for which petitions were entered exclusive of debts proved after decree—creditors' suits, 199*l.*, and pursuers' suits, 519*l.*. Decrees were obtained in creditors' suits, 4*l.*, and pursuers' suits, 169*l.*. The costs were 73*l.*, and the fees 38*l.*. The common law jurisdiction was small—1 *rule nisi*, 1 interlocutory order, 4 subpoenas, and 1 cause, in which judgment was given for the plaintiff.

JOINT STOCK COMPANIES.—Petitions against companies under the Act of 1842-3, the same number against companies unincorporated: 7 winding-up orders; 137 for winding-up still pending, filed, or made in that or previous years; 739 affidavits filed in matters of such petitions; 290 orders (exclusive of winding-up orders) made therein; 2 injunctions issued; 65 advertisements issued; 161 appearances; 77 summonses; 138 Registrar's certificates, and 343 claims made. The debts claimed and adjudicated on amounted to 26,878*l.*. The number of contributors included in list of contributors as settled by the Court was 317, only one excluded. The calls made amounted to 12,110*l.*, and the amount received for calls was 1993*l.*. The gross produce of the estates and properties of the several companies was 2544*l.*, and the special charges 6*l.*. The expenses were—solicitors' charges for business in Court, 2170*l.*; court percentage on the total monies received by the official liquidators, and by the Registrar where no official liquidator was appointed for liquidation, 667*l.*; official liquidator for remuneration, 110*l.*; expenses incident to the sale of properties of the several companies previous to the sales thereof, 108*l.*; other charges, 352*l.*; amount of dividends ordered, 26,954*l.*; court fees received, exclusive of percentage, 405*l.*. The number of appointments by summonses, adjournment, or otherwise disposed of, 764; appeals lodged, 2; judgments pending or abandoned, 2. The number of writs of *habeas corpus* within the Stannaries was 73, and without 82.—Devonshire: No equity or common law proceedings. Joint stock companies—11 for winding-up; 35 affidavits filed; 16 orders (exclusive of winding-up orders); 1 advertisement issued, 1 appearance entered; 5 summonses issued; 5 certificates issued, and 1 claim made. Amount of debts claimed and adjudicated thereon, 692*l.*. Contributors, settled by the Court, only 1. Amount received for calls, 161*l.*. The expenses were—solicitors' charges for business in Court, 152*l.*; court percentage on the total monies received, 5*l.*; other charges, 10*l.*. The amount of dividends ordered was 750*l.*, and the court fees, 25*l.*. There were 5 writs of *habeas corpus* without the Stannaries.

A recovery in the tin standard is anticipated when, or soon after, the New Year has opened. No one doubts that the recent drops have been due far more to private action than to the public exigencies of the market. Now, whilst it is always possible so to manipulate the market as to force prices out of their natural level either up or down, the effects of such a course can only be temporary; and as all the present indications point to a greater deficiency in the yield of tin than a decrease in the demand a reaction, and that a substantial one, cannot much longer be postponed. Writing to a local newspaper, a correspondent makes sundry practical suggestions with regard to the association of tin producers, which embody, but in greater detail, principles that have heretofore been advocated in these reports. He sees, as everyone else must have seen, what excellent results have commonly followed when far-sighted managers have preferred to stock rather than to sell, and his idea is that the advantage of stocking should be extended by association, and that the sellers should turn at fixing prices. The advances required while stocking he believes could readily be obtained from bankers—London firms if the local ones are disinclined to negotiate. Further, he does not see why the producers should not reap the profits of the smelting by going into the market with the white metal. Of course no association of this kind, any more than a combination on the other side, could permanently interfere with the laws of supply and demand, but if Greek met Greek in this fashion the net result would inevitably be to give more of the profits of mining to those who work for them, and less to those who scheme.

Truro folks have been greatly excited by the non-appearance of action in connection with the mineral line from Perran to their town. Mr. W. B.

Reobuck has eased their minds in one way by saying that it was bought by the Cornwall Mineral Railway Company, with the view of making their system more complete, and that works will be commenced in the spring. At the same time he very candidly warns them that no very heavy traffic will ever come over the line until a new Truro is brought down to deep water, or the deep water is brought up to Truro. The Minerals Railway Company, by the way, have put the remainder of the preference shares upon the market at par. Those already issued are at a premium. By an accidental omission in our last week's report the name of the Bodmin and Wadebridge Railway was not given as that of the line which would be rescued from its isolation by the projects of the Cornwall Mineral and the Devon and Cornwall Railway Companies.

An action for surface drainage to crops, caused by the fumes of arsenic and sulphur issuing from the mine stack at Wheal Jane, Kea, has been heard at the Truro County Court. The action was against Mr. Hawke, a shareholder, and several points of law were raised. As a point of fact, the judge decided that reasonable though not perfect care and diligence had been exercised at the mine, but that damage had been sustained not exceeding 5*l.*. On the part of the defendant, however, it had been contended that the works carried on by the mine, under license from Lord Falmouth, were strictly within the terms of the lease from his lordship of the plaintiff's farm, which contained sundry reservations; and here the judge held for the defendant, but gave leave to appeal. The scientific evidence was very contradictory, but it appears from the judgment that reasonable care is not sufficient, in Mr. Bere's opinion, to indemnify the adventurers in a mine for such a claim. The plaintiff's contention was that reasonable care was not taken.

We must depart from our usual custom of leaving mine meetings to fill their proper place in the columns of the Journal, to express a hope that we shall see no more of such disgraceful scenes as that which took place at Wheal Seton, on Monday. All the legitimate objects of the malcontents could have been carried out without the indescribable confusion which occurred. As matters stand it is impossible now to say what will come next, for the legality of the action finally is more than questionable. The wisest course would be for all parties to agree to a calling of a special meeting, and bind themselves over to keep the peace when they get there. It is really absurd, and worse than absurd, that a plain matter of business cannot be conducted in business fashion.

We are glad to find that the movement for a testimonial to Capt. Teague has taken definite shape, and that it was finally resolved upon at the meeting of the adventurers in Carn Brea yesterday. That they have every reason to testimonialise one who in so short a time has conferred almost unheard of advantages upon their property every one will admit. But Capt. Teague has even wider claims. The interests of legitimate mining have never suffered at his hands. He has never advised other people to do what he would not do himself, and hence at this moment the association of his name with a concern would insure the fullest confidence and, so far as mining is concerned, certainty. In his reference to the vote of thanks passed at the Carn Brea meeting, Capt. Teague expressed similar views to ours concerning the Stannary Court. He does not see any more than we why the County Court could not do all the work, and that better.

REPORT FROM LANCASHIRE AND CHESHIRE.

Dec. 19.—A case, which has excited great interest among colliery proprietors and coal merchants, was entered for hearing at the Liverpool Assizes, which are now proceeding, but owing to it having been settled out of Court no report of the facts has been published. The plaintiffs, Messrs. Barnes, of Liverpool, coal merchants and shippers, sought to recover from Messrs. Dewhurst, Hoyle, and Smethurst, colliery proprietors, of Blackrod, near Bolton, damages to the amount of 5000*l.* for an alleged breach of contract. The plaintiffs' case was that during the time when the high prices prevailed for coal the defendants had failed to fulfil their contract for the continuous supply in a train of box wagons to be delivered at the High Level Station, Liverpool. On the part of the defendants an objection to the contract was raised, and the amount of the claim was, I hear, to have been made the subject of evidence from several prominent members of the Lancashire coal trade. The case, however, never came into Court, but was settled on the defendants paying damages to the amount of 1000*l.*, each side paying its own costs. It is reported that several other actions relating to contracts in the South Lancashire district are pending.

A decidedly improved tone in the Iron Trade has to be reported, and the opinion that after the new year sets in there will be a general revival. Enquiries, both for home and continental consumption, are more numerous. For iron ore, in the Barrow district, prices remain firm, at 18*s.* to 22*s.* per ton for good qualities. It is reported that one of the largest mining companies in the district has entered into contract for the supply of all ore raised during the next two years at current prices. The search for coal near Barrow is still proceeding, but has not yet proved successful. Of Coal it may be stated that the stocks are accumulating, and that there is not the slightest prospect of a change in prices just yet.

TRADE OF THE TYNE AND WEAR.

Dec. 19.—The Coal and Iron Trades continue satisfactory on the whole; the value of coke has declined but little, and it will not do so for a long period, as most of that to be produced next year is sold, contracts having been entered into at the rates lately current—from 38*s.* to 40*s.* per ton; offers of even large contracts at the present moment below 38*s.* are refused for first-class coke. Steam coal is, of course, much more plentiful, and at many of the works in Northumberland stocks are accumulating, and manufacturing coal is falling in value to some extent, and the same remark applies to house coal, but the fall, so far, has not been to any serious extent. Looking at the position of the coal trade, and also at the state of the iron trade, the value of coal must continue to be high for some time to come. The iron trade is much firmer than it has been of late, and a slight reaction has taken place, prices being a shade higher, and the demand for all kinds is expected to be good next year.

The Tyne Main Colliery has been started by a new company; these works were stopped some time ago, the lower main seam having been entirely exhausted; but several upper seams remain, which can be now wrought with advantage, and these will be worked, and no doubt ultimately the Busty seam, which lies under the Hutton seam, will also be sunk to and worked. The High Main water was pumped at this old works for many years by a large and powerful engine, but lately the water has been kept back by tubbing; of course the operations at Wallsend, now in progress, will free this and many other works of water.

MECHANICAL VENTILATION OF MINES.—This system of ventilation continues to make steady and regular progress, and it is now being applied at iron ore mines with much success, as well as at coal mines. The Guibal ventilator is most generally adopted, experience having proved it to be the most simple, economical, and efficient machine yet introduced. Mr. Morison, Collingwood-street, Newcastle, is agent for this machine. There are about 80 of them at work in the United Kingdom, and 20 in course of construction. The size of these machines varies from 10 ft. in diameter up to 45 ft., and the water-gauge varies also from 1 in. to 4 in. The quantity of air produced varies from 20,000 cubic feet per minute up to 164,000 cubic feet per minute; this latter quantity is produced by a machine 37 ft. in diameter and 12 ft. in width, working at a speed of 60 revolutions per minute, with a water-gauge of 3 in. This machine has been erected at the Eston Iron Mines, near Middlesbrough. Many very useful and effective machines are at work, the diameter being 30 ft. and the width 10 ft.; one of these machines has been worked for some time at Middle Duffryn, in South Wales; the speed is 65 revolutions per minute and the quantity of air produced is 120,000 cubic feet per minute, with a water-gauge of 3 inches. A very good machine has also been started at Whitehaven at one of the coal mines of the Earl of Lonsdale; this machine is 36 ft. in diameter, and is worked at 60 revolutions per minute, producing a circulation of air of 128,000 cubic feet per minute, with a water-gauge of 2-80 inches. The largest machine of the kind erected is the Asworth machine, which is 45 ft. in diameter and 12 ft. in width; it is worked at 60 revolutions per minute, and at this speed produces 147,000 cubic feet of air per minute, with a water-gauge of 2-80 inches. On comparing Fan Ventilation with Furnace Ventilation it is found that the former is vastly more economical under ordinary circumstances than the latter; it is, indeed, only in the case of very deep shafts that furnace ventilation can compare at all favourably with fan ventilation.

Perhaps the best instances we have of furnace ventilation is at the Eldon Colliery, in South Durham. Here 151,000 cubic feet of air is circulated per minute, and this is produced by two furnaces, the consumption of coal being 35-15 lbs. per hour for 1-horsepower. The horse-power produced by these furnaces being 42-24, the water-gauge being 1-65 in. But we find, according to Mr. Cochrane, that the average of six collieries gives the consumption of coal to be 43 to 45 lbs. per hour per horse-power. Now, comparing these results with fan ventilation, we find that from careful experiments conducted by impartial engineers the useful effect of the Guibal ventilator has been found in all cases to range from 56 to 70 per cent. of the steam-power of the engine, and the consumption of coals to vary from 7 to 16 lbs. per hour per horse-power in the air, the saving in fuel as

compared with the furnace being in many cases sufficient to repay in 12 or 18 months the prime cost of the apparatus.

COAL-CUTTING MACHINERY.—This system of coal-cutting is now making some progress, as already noticed in this letter. The machine introduced from Gartsherrie, Glasgow, at the Hetton Collieries is giving the greatest satisfaction, and four more machines have been ordered. Additional machinery is now in course of erection on the surface, for the purpose of compressing the air to be taken down to work these machines. This machine is the best, without doubt, ever tried in this district. It may be described as an endless chain, worked round in an oval form, the cutters being fixed to the links of the chain. Each cutter cuts away 1-16th of an inch, and at the speed it is worked at the machine holes 1 yard in width and 1 yard in depth in five minutes, equal 12 yards in one hour, and 96 yards in eight hours, being equal to the work of about 25 men doing the same by hand labour.

REPORT FROM SCOTLAND.

Dec. 18.—The Warrant Market continued very firm all last week, and on Thursday and Friday a large business was done at about 105*s.* On Monday it opened with some excitement, and transactions were very numerous from 112*s.* 6d. to 109*s.* Yesterday there was again an extensive business done, from 108*s.* 6d. to 110*s.* cash, closing buyers 110*s.* cash, and 110*s.* 6d. one month, with sellers at 6d. per ton higher. To-day the market opened with buyers at 110*s.* cash, and a good business was done from that price up to 113*s.* 6d. cash, closing with sellers at 113*s.* The demand for consumption, considering the season of the year, is very good, and the makers are very unwilling to meet buyers on account of the scarcity of iron, and the agitation now going on in the mining districts. Quotations for special brands are necessarily very irregular, and those noted under must be received with caution:—

	No. 1.	No. 3.
G. m. b., at Glasgow (deliverable alongside)	112 6	108 6
Gartsherrie ditto	130 0	112 6
Coltness ditto	—	—
Summerlee ditto	125 0	112 0
Carnbroe ditto	120 0	112 0
Langloan, at Port Dundas ditto	—	—
Culder ditto	130 0	110 0
Glenarnock, at Ardrossan ditto	123 6	112 0
Eglinton ditto	115 0	107 6
Dalmellington ditto	—	—
Carron, at Grangemouth, selected, ditto	130 0	—
Shotts, at Leith ditto	125 0	110 0
Kinnell, at Boness ditto	120 0	105 0

	Tons	14,009
Week ending Dec. 16, 1871	14,009	16,341
Week ending Dec. 14, 1872	14,009	16,341

	2,232
Increase	2,232
Total increase since Dec. 25, 1871	31,190

For Malleable Iron the tide has now fairly turned, and the market is being flooded with orders. Within the last two or three days merchants have become eager buyers, but makers are holding off, waiting till the market for pigs takes a more definite shape. In the meantime prices have stiffened, while work is being pressed on makers at current quotations, or is being refused, unless for small parcels to keep mills going. This sudden revelation of the orders held by merchants *in retentis* has at once imparted tone and vigour to the market, and causes the dawn of the coming year to reflect a cheerful light on the close of 1872. The specifications offering include bars, plates, angles, nail-roads, sheets, and all the other descriptions of iron; and some of the orders are large and held in good hands. We trust sincerely that the bright reflex will be unclouded by perplexing questions concerning the remuneration of workmen, beyond what can be settled by counsel and conciliation.

The Coal Trade is very singularly circumstanced, through the stubbornness of the miners. Several furnaces in Lanarkshire have had to be damped down for want of coal; the manufactories in Greenock have suffered from the same cause; and both here and on the West coast generally, domestic consumers have only been able to secure a partial supply of fuel.

The secret of this scarcity lies in the fact that the price of coals having decreased, the extraordinarily high wages paid to the colliers had to be reduced—first 1*s.* per day, and then, in some works, another shilling per day. On this being announced, the men took to idling instead of to working, and daily mass meetings became the order of the day. As we write, things have assumed, for the nonce, a better appearance. Several collieries have resumed work, and at a meeting held here on Monday it was agreed:—"1st. That all men who have only been reduced 1*s.* per day should resume work next day; 2d. That the workmen in districts where the men have only been reduced 1*s.* offer to work the pigs of their employers in double shifts of 8 hours each; and 3d. That a levy of 2*s.* for each of the two next weeks be received from every man for support of those on strike, and if necessary, after that date, the levy to be increased in amount." Of course, the third resolution is not reassuring, and looks as if a truce were called to allow of a good pay being got to "spree" through the New Year holidays. As we close our letter, the colliers have become so resolute that fears are entertained that not a pick will be lifted by those on strike till their demands have been conceded. On the Motherwell and Lesmahagow lines of railway, scarcely a pit is working, and Ayrshire has caught the infection, and is pursuing the same course.

The shipments of coal for the week amounted to 16,470 tons, as against 34,214 tons in the corresponding week of 1870. At Hamilton a collier was fined 40*s.* for throwing stones through the window of the house of the manager of Ferniegair Colliery.

Regarding the new "special rules," which came into operation on January 1, Mr. McDonald advised the miners that, should those "prepared by the Scotch masters be offered them, in the spirit of the letter, that every working miner in Scotland should lay down his pick and make the employers at their rules, take them away, or burn them."

The Society of Engineers, Machinists, and Millwrights, &c., held a reunion here, which was to have been presided over by Sir William Thomson, who was unavoidably absent, having been called to Cornwall to test the new cable recently laid from the Lizard to Bilbao. The chairman said, in the course of his remarks, that "the number of members was 40,555; the amount of funds, 200,000*l.*; the yearly income, 150,000*l.*; the expenditure for various benevolences connected with the society, 100,000*l.* a year, and 9000*l.* was paid to superannuated members."

COAL IN THE FAROE ISLANDS.—A Dundee whaler, arrived from these islands, reports that the newly discovered coal mine had turned out a great success, and it was expected that the yield would prove a new source of revenue to the islands, and would, in addition, tend to reduce the price of coal in Orkney and Shetland.

Merry and Cuninghame (Limited) have declared an interim dividend of 3*s.* 6d. per share, to account of the dividend for year ending June 30, 1873.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Dec. 19.—The somewhat firmer tone in the South Staffordshire Iron Trade described in our report of last week has been satisfactorily maintained alike in the pig and finished departments. Stocks of pig iron are reported low throughout the district, and prices show a firmer tendency. Best brands of native all mine are 6*l.* to 6*l.* 10*s.*, and cold blast (Shropshire) 7*l.*. Cinder iron is about 4*l.* per ton. The demand for Nos. 1, 2, and 3 ordinary melters has been improved by the increased requirements of the ironfounders during the last fortnight. Merchants and brokers who have orders for finished iron to give out manifest more disposition to place them since the firmer tone of the market has become generally recognised, and the demand shows a decided improvement for plates, sheets, angles, bars, T, and guide iron, although for the present the mills and forges continue in partial operation. The idea of further reductions in the price of finished iron, for some time at least, is now quite abandoned, and some are sanguine enough to believe that a further advance will be declared on Quarter Day.

The total number of blast furnaces in the South Staffordshire and East Worcestershire district is 163, of which 94 are in operation. The latter number is, however, we understand likely to be increased early in the new year should the trade continue to maintain its present favourable aspect. Iron ores are in buoyant demand at firm quotations.

The provisions of the new Coal Mines Regulation Act are just now engaging the serious attention of the coalmasters. The definition of the term "manager" is at present not clearly understood, some doubt existing as to whether "butties" or "doggies" of good practical experience will be eligible for the office. If by the term manager is to be understood mining engineer, or the resident bailiff under him, South Staffordshire would be seriously inconvenienced for a time; but the general opinion seems to be that "doggies" who were able to pass the Government examination will be eligible for the office of manager within the meaning of the Act. It is understood that the nominations for the "District Board" under the new Act include the names of Mr. Fisher Smith, Mr. N. N. Solly, Capt.

Harrison, Mr. D. Peacock, Mr. E. Jones, and Mr. John Brown, with three workmen. An interesting discussion on the subject of the special rules took place, on Monday, at the meeting of the Dudley Institute of Mining Engineers, a report of which is given in the Supplement to this week's Journal.

The Iron Trade of North Staffordshire shares the improvement which is experienced in the south part of the county. Some tolerable orders have been given out for next quarter's delivery, and a decidedly firmer aspect in regard to quotations is observable than was the case a few weeks ago. There is increased animation in the pig-iron trade, and prices have improved. Ironstones are quiet, but coal is in brisk demand. The miners employed by Mr. Plant, of Cheadle, have applied for an advance of wages, and, the answer being unfavourable, the matter has come before the Amalgamated Association of Miners, the local representative of which has publicly announced that the whole of the North Staffordshire miners were expecting, and meant to have, an advance at the commencement of the new year.

THE MINES REGULATION ACT.—A mass meeting of miners was held at Great Bridge, on Wednesday, when the following resolutions were passed unanimously:—

That we, the miners of South Staffordshire, solemnly protest against mining engineers becoming colliery managers, as it would destroy the spirit of the Act, and imperil the lives of miners to be under the control of mining engineers, who are not acquainted with the practical working of mines, and, therefore, could not use that caution which is so importantly necessary for men working in so hazardous a condition as miners. We also believe that it would incur extra expense in the management of mines, to the injury of masters and to the jeopardy of the men. This meeting, therefore, pledges itself to use its most strenuous efforts to resist the same, and hopes that the masters will assist us, for the sake of their own pockets, and for the sake of the men's lives, which we feel fully persuaded would not be in so safe hands as they are at the present time.

That this meeting also believes that the time has fully come when it is the imperative duty of miners to establish a permanent fund for the benefit of widows and orphans, and also of men who have been permanently injured at pits which are nearly finished, and for all cases of distress and suffering. We, therefore, propose to withdraw our sick pay from the pits on the first Saturday in January, 1873, and thereby to establish a permanent fund as a supplement to the Hartley balance, when we hope to be in a position to support our own widows and orphans, whether their husbands are killed by a single accident or by accidents of a greater magnitude.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Dec. 19.—In the neighbourhood of Worksop and New Cromford about an average quantity of lead ore is being produced, whilst the mines at Eyam have been doing very fairly of late. Still, considering the large number of mines in the county, the yield is comparatively trifling. The Messrs. Wass appear to be the most successful of those engaged in lead mining, to some extent owing, no doubt, to their resources, which enables them to work with the best appliances in the shape of machinery, an advantage which does not attach to all those who have opened out mines. The lead districts, it may be said, are separated from the coal-bearing stratum by a wide interval of ground; and, whilst the former have few railways in connection with them, the collieries have every facility supplied for their produce being sent to all parts of the kingdom. The result is that in no part of England are the collieries more favourably off for business, or the workmen so sure of full employment in ordinary seasons. At present the Midland Company carries down upon one-third of all the coal taken from the district by railway; and large as that quantity is it will undoubtedly increase, having a great advantage in being nearer to the metropolis than any other district of importance, whilst its coal seams are not excelled either as house or gas coal. Indeed, at Staveley, according to Mr. Woodhouse, the eminent mining engineer, the "top hard," or Barnsley seam, is fully 6 ft. thick, there being no separation between the "hard" and "softs," and the hard seam "is probably finer than in any other part of the coal field." From the pits belonging to the company at Staveley a large tonnage is being sent to London and the Midland and western districts. The Clay Cross Company are also sending a great deal away, principally to the metropolis, their average being about one-twelfth of all the coal entering within the radius of the city dues. At the various other pits, both in the Alfreton and Unstone districts, business is active. The ironworks are also favourably off for orders in all branches of the trade.

"Bull week" in Sheffield, so far, has been a very active one, more especially in cutlery and Bessemer steel. The mills are kept going and there has been a very large output of railway material of every description, including rails, springs, points, axles, &c. The South Yorkshire coal trade is active, and there has been no falling off in prices of either steam or household qualities.

The National Miners' Association held a conference at Leeds in the second week in January. Unionism, it appears, is not particularly popular in all parts of Derbyshire, for on Saturday last the collieries on the Staveley Company's collieries received the handsome sum of 6d. as the week's contribution of some 200 or 300 men.

REPORT FROM MONMOUTH AND SOUTH WALES.

Dec. 19.—If a comparison were drawn between the state of the Iron Trade at present and its position twelve months ago it would be found that a marked change had taken place. At the end of 1871 the ironmasters found themselves, after a run of activity, with a good number of contracts unexecuted, and with the certainty of being able to replace one order by another as soon as it was worked off, for the demand was active, and prices were rising. The end of 1872 is somewhat different. The year has been a prosperous one from beginning to end, but its prosperity seemed very likely to die out with it. Few ironmakers can boast of having any very extensive engagements on hand at present, all their contracts of importance having been worked off, and new ones have been slow of arrival lately. It is satisfactory, however, to find that the year does not close with so dismal a state of things as many have lately expected. There are indications of renewed activity in the trade, which possibly will be developed as the new year opens. There is clearly an increasing disposition evinced by customers to give out orders at current rates, which is no doubt the result of a conviction that prices of finished iron cannot possibly go any lower, with the cost of labour and materials so high. Ironmakers are not so much averse to reducing quotations if they could see their way to a fair profit on their manufacture; but that seems quite impossible at present, for neither fuel, raw materials, nor labour will be brought much, if any, lower for some time to come—probably never, for everything seems to have reached a higher standard of value than at any former period, and from present appearances it is difficult to be maintained. Under these circumstances, therefore, there seems to be more activity in the iron market, although it can hardly be said that many transactions have been entered into lately. But if makers chose they could secure a good number of specifications now at current quotations, and might, possibly, be able to provide employment for their establishments for pretty nearly the whole of the next quarter. But they are chary of this, because it will be more to their advantage not to burden themselves with engagements just now. There is almost certain to be a good demand for iron of all descriptions in the course of next year, and as the equities improve, a good price must improve also. The iron trade throughout the district will continue well employed, and there is a little extra energy put into operations now owing to the approach of Christmas. The men usually try to make as much time as they can at this period, to enable them to indulge a little more freely in their holidaying and pleasuring after. After Tuesday there will, in all probability, be but little work done at any of the establishments until the new year has been ushered in. This is to be expected, but what will take place after is rather uncertain. It is not known what course the ironworkers will take in regard to the proposed reduction in wages, so far the men do not appear disposed to offer much opposition. The Tinplate Trade does not improve. Orders are coming in slowly, and stocks are accumulating on makers' hands.

The foundation-stone of an extensive new tin-plate works has been laid at Pontarlludra, in close proximity to the Llanelly and Carmarthen junction of the London and North Western Railway. The general plan of the new establishment has been drawn up by Mr. Thomas Williams, who constructed and managed the old tin works at Heady, and when completed will give employment to about 500 persons, which will add considerably to the industry of the thriving little district. The foundation-stone was laid by Col. Wood, one of the proprietors.

The Steam and House Coal Trade continues to be characterised by a large degree of activity. Since the improvement in the iron trade prices of coal have become firmer, and that downward tendency which had commenced has been completely checked. There is a more plentiful supply of shipping at the ports, and the clearances, both foreign and coastwise, are increasing. Some extensive contracts have been entered into for delivery over the whole of next year, at 19s. to 21s. per ton, for smokeless steam coal. Quotations range pretty nearly as follows: Rhondda Merthyr smokeless steam coal, large colliery screened, 20s. a ton; Hirwaun Upper Four-foot smokeless steam coal, 19s. per ton; Wills's Rhondda Resolved, 18s.; No. 3 Rhondda, 17s.; and so on. Work has been carried on with considerable energy at all the collieries of late, the colliers, like the ironworkers, being anxious to make as much time as possible before Christmas. After that festive is over, however, it is likely there will be more agitation about the proposed reduction in prices.

The colliery proprietors have held some important meetings during the week to meet the provisions of the Mines Regulation Act, which will come into operation on the first day of the new year. The colliery owners of the district have named the following gentlemen to form a Board of Examination:—Messrs. J. Nixon, G. Elliot, M.P., D. Davies, D. Davis (Blangwau), and R. Fothergill, M.P., to represent the colliery owners; and Messrs. W. Adams, Geo. Brown, W. T. Lewis, and Foster Brown to represent the managers and mining engineers. Before this board all managers will have to pass an examination before they can take the management of collieries. At Swansea a meeting of the Coalowners' Association has been held, and a committee formed to consider the special rules framed at Cardiff, and to report upon them. In compliance with section 26 of the Act of 1870 it was agreed to endeavour to obtain certificates of competency for their superior overseers to be nominated as managers under the Act. It was also resolved to seek a division of the Inspector's district, and a board for the appointment of managers was formed. A report of the proceedings of the colliery owners' meetings will be forwarded to the Secretary of State.

THE PELSALL HALL COLLIERY INUNDATION.

So far as it relates to the 21 deceased colliers whose remains have as yet been recovered from the Pelsall Hall Colliery workings, the coroner's inquest is over, and the verdict having been one of "Accidental Death," no one is adjudged worthy of judicial blame. If it is, however, to be regretted that boring rods were not yet used when it was found that water was coming so rapidly into the heading in which the deceased CASH was working as to represent a stream "as thick as a man's thigh." This, it is true, was not the state of things when, on Nov. 2, eight days before the accident, Mr. JOSEPH BAILEY, mining engineer, was in the workings. Mr. BAILEY and his brother are the agents for Mr. J. S. CHARLES, the lessor, and they are men of high respectability. He found water "dripping from the headings in all directions, but there was no actual flow except in the artificial gutters that carried the water to the pumping-engine." There was nothing whatever to be seen either upon the surface or underground which indicated the proximity of old workings; and the property was sold, and let, and sub-let as a maiden mine, with many yards yet to be won. Mr. BAILEY ventured to say that in a maiden mine he should not have used boring rods, even though the stream in the heading had been as described. We hope that there are not many colliery engineers in Staffordshire who entertain the same view. One would have thought that so enormous a flow would lead to great alarm under any circumstances. Whatever may have been Mr. BAILEY's previous views, neither he nor any other mining engineer in Staffordshire or in other colliery district in this country will be free from blame if he should hereafter permit the continuance of so startling an inflow without the customary precautions being promptly adopted.

Immediately that CASH found what had taken place there should have been an alarm raised, and every miner called out of the surrounding workings till safety had been restored. Nor do we think that there are many colliers—certainly, we hope there are not—who would have ventured their lives as the unhappy CASH ventured his. We have information of the poor fellow's antecedents. So accustomed is he to work in the wettest of places that he has acquired the designation in his district of the "Water Rat." If there was any wet work to be done which other colliers were reluctant to undertake then he was the man who accepted it without hesitation. Such intrepidity is frequently of great service in all walks of life; but it not unfrequently leads, as in this case, to recklessness, from which the gravest consequences result. Men of this class require to be constantly overseen by people who are accustomed to act with calmness and with prudence. We are thankful that the new Mines Regulation Act is likely to improve the character of the constant underground supervision to which such men will be subjected. And we are further thankful that the miners of this day will be obliged to have upon record for their descendants the extent and the character of the work in which they have been engaged, so that their descendants may not be exposed to the perils which here have followed upon the absence of such judicious precautions.

Although we may have something more to say upon this disaster when it will be possible by the draining of the mine and the restoring of the ventilation for the Government Inspector to complete the search for the one missing corpse, and make an official report upon the calamity, yet we cannot close our present remarks without a word or two upon the splendid conduct of the noble fellows who so bravely carried on the hundred hours incessant struggle to recover the entombed miners. Of the struggle one of the volunteer mining engineers who carried it on has written a graphic report. The initial "T. C." attached to the document would indicate the author as THOMAS CHECKLEY, a name worthily honoured among the collieries of Staffordshire. As all the newspaper reports have spoken so also this report speaks of "noble, valiant, untiring Nesses." Let the name never again be mentioned without a manifestation of respect. It has won a place by the side of JEFFCOCK for heroism. Long may it be before it has to indicate, as JEFFCOCK now does, a hero departed. To Mr. Nesses and to the other 21 engineers and operative workers who struggled through the eventful hundred hours during which hope lasted that there might be life in the pit, a faint testimonial of the admiration of the public was evinced on Wednesday night last, when at Pelsall the Ven. and Rev. Dean CHAMPNESS presented each one with a Bible, more or less valuable, inscribed as a "Memorial of his earnest and self-denying labours in trying to rescue the 22 unfortunate miners who lost their lives at the fatal accident at Pelsall Hall Colliery."

THE NORTH OF ENGLAND IRON TRADE.

No. I.—Introductory and Historical.

We propose to write a series of papers on the Iron Trade of the North of England, past, present, and prospective, more especially with reference to those two great and growing centres of the staple industry—Cleveland and Barrow. Fragmentary, but so far as they went reliable, narratives have from time to time appeared in our own Journal dealing with this subject. The word fragmentary is used advisedly, for while the districts that are pre-eminently the centres of the iron trade were advancing with such rapid strides it was impossible to comprehend every phase of progress, so as to give a finished record. Nor, so far as we are aware, has this hitherto been attempted. A district like that of Cleveland would almost require to have its history re-written every year. Materials accumulate so rapidly that even while the historian is collating facts they become stale and out of date. Just a few data to illustrate what we mean.

In 1869 there were only 93 furnaces in blast in the North of England, producing something like 1,440,000 tons per annum, and in September of that year additional furnaces were in progress which it was calculated would increase that production by at least 250,000 tons yearly. It was then computed that Cleveland was making good on one-third of the whole pig-iron produced in the United Kingdom, taking the returns issued by the Mining Record Office as the basis of calculation. Since then, while other districts have been standing still, or nearly so—Scotland in fact has been making a retrograde movement, so far as the actual production of pig-iron is concerned—the North of England has gone forward with most amazing strides. At the present time there are 135 furnaces built and 132 in blast, being an addition of 40 blast-furnaces within the last three years. But the increase in the make of pig-iron, owing to the introduction of new processes and improvements, has been more than corresponding great, and it is calculated that the total make for this year will not be much short of 3,000,000 tons. Reducing this vast factor of our industrial wealth to its money value we find that if the average for the twelve months be struck at 100s. per ton—and this will be rather under than over the figure—the aggregate sum realised would be 15,000,000. There is no abatement of activity. Nearly every firm of ironmasters in the Cleveland districts has improvements or extensions in course of being carried out or in contemplation. It is expected that by the end of 1873 there will be at least 20 more furnaces in blast. This will increase the production of pig-iron by something like 500,000 tons per annum.

The oldest works erected in the North of England in modern times for the smelting of pig-iron were those of Lemington, which belonged to the Tyne Iron Company, and were erected about the first year of the present century. It is almost unnecessary to state that the appliances in use at these works as well as the process of manufacture were exceedingly crude and defective. The works consisted of two furnaces, and the ironstone used was principally procured from pits on the River Tyne, at Elswick, and Walbottle. The Cleveland ironstone was then undiscovered. The supply of the mineral obtainable on Tyne-side was precarious and inadequate; hence the proprietors of the Lemington Works were compelled to supplement their local supply by mixing it with Scotch and other ores, which they brought to their works at considerable expense. The difficulties under which the company laboured in this and other directions, and the use of the cold blast, which greatly limited the productive power of a smelting-furnace, made the production very insignificant, and prevented the undertaking being so remunerative as either to induce an extension of the Lemington Works or the construction of others of the same kind. Indeed, we do not find

that other smelting-works were erected in the North of England until the year 1827, when the Birtley Iron Company was set on foot, and built three furnaces at Birtley, between Newcastle and Sunderland, on what was subsequently the Stanhope and Tyne Railway. It is believed that these works were the first to use the Cleveland ironstone. In May, 1836, a trial cargo of 55 tons of ironstone was sent to the Birtley furnaces from Grosmont by the Whitby Stone Company. The subsequent development of the trade continued slow until the year 1845, when Messrs. Bolekow and Vaughan erected the works at Wotton Park, near Bishop Auckland. In the interval the Redsdale Ironworks, belonging to the Derwent Iron Company, were established about the year 1835, and in the following year the same proprietors built the Hareshaw Works, which were followed in the same year by the Wylam Ironworks, commenced by Mr. Benjamin Thompson with only one furnace. The well-known Consett Ironworks were the next built. They were built about the year 1840, by the Derwent Iron Company. Two years later the Walker Ironworks were started by Messrs. Losh, Wilson, and Bell; and between 1842 and 1846 the Stanhope Ironworks, belonging to the Weardale Iron Company; the Crookhall Works, belonging to the Derwent Iron Company; and the Tow Law Works, belonging to the Weardale Iron Company, were all called into existence.

Here we have arrived at what may be called a landing-stage in our historical progress. Let us pause, therefore, and look briefly at results. Between the date of the establishment of the Lemington Ironworks in 1800, and the erection of the Wylam Works in 1836, there had only been 11 furnaces erected in the North of England, and the annual production of pig-iron at the latter was not much over 30,000 tons. Seven years later there were 19 furnaces built, and between 1843 and 1846, which was a period of unusual activity in the trade, 18 more furnaces were added, making the total number 37. Although Cleveland ironstone had been used at the Wylam Ironworks as far back as 1836, it was not until the year 1850 that the main seam, which has proved such a source of wealth to Cleveland, was discovered in the Eston Hills by the late Mr. John Vaughan and Mr. John Marley, mining engineer, of Darlington. On Aug. 13 in that year the first trial quarry was begun, and on Sept. 2 following the first lot of about 7 tons was brought down, first by cart to Cargo Fleet, and thence per rail to the works of Messrs. Bolekow and Vaughan, at Wotton Park. From this date the progress of the trade was quick and decided; between 1852 and 1855 there were 16 different establishments started for the smelting of the Cleveland ironstone. These were the Middlesbrough Works of Messrs. Bolekow, Vaughan, and Co.; the Eston Works, built by the same firm; the Cleveland Works (Elwton and Co.); the South Bank Works (B. Samuelson and Co.); the Tees Works (Gilkes, Wilson, and Co.); the Darlington Works (the South Durham Iron Co.); the Ormesby Works (Cochrane and Co.); the Clarence Works (Bell, Brothers); the Stockton Works (Houldsworth, Benington, Byers, and Co.); the Wallsend Works (Palmer and Co.); the Felling Works (Pattinson and Bell); the Bradley Works (Richardson and Co.); the Norton Works (Warner and Co.); the Washington Works (Bell, Brothers); and the Haltwhistle Works (J. Beazley, jun.).

The various progressive steps taken in the development of the mines of Cleveland must form the subject of a future article. There is no more interesting chapter in the history of Cleveland's industry. Meanwhile, however, we submit the following analysis, prepared by Mr. Crossley, F.C.S., of the ironstone used in the Cleveland furnaces:—

Silica	11.66 per cent.
Alumina	9.31 "
Iron	5.26 "
Magnesia	4.12 "
Sulphur	0.02 "
Phosphoric acid	1.17 "
Water, carbonic acid, &c.	26.61 "
Protioxide of iron	41.01 " = 99.16.
Loss by calcination	22.05 per cent.
Iron in dried sample	31.90 "
Iron in calcined sample	40.90 "

THE DIAMOND FRAUD EXCITEMENT.—The campaign of extermination undertaken by the *Times* against the perpetrators of the late diamond frauds in San Francisco, has been resumed with a new vigour, in its money article of yesterday, in bringing forward the most severe remarks upon the character of the leading San Francisco and New York bankers, who were ready, as the *Times* says, "to embark in a scheme side by side with adventurers so notorious that even in another hemisphere the mere mention of their names was sufficient to begot a conviction that there must be villainy at the bottom of it." It is a matter of gratification that this most outrageous swindle—the greatest ever exposed in America, as remarks the *New York Sun*—has not been allowed to make victims on this side, and that its disastrous effects, owing to the protective measures advocated by the *Times* and the *Mining Journal*, have been only partially felt in New York, but generally in California, whose credulous people seem to have fallen in the hands of the unscrupulous promoters of the San Francisco and New York Commercial and Mining Company. It is nothing but justice not to hold the credit of California responsible for the dishonest transaction of her notorious mining sharps in San Francisco. The very fact that the bank of California had their treasurer, Mr. Kelton, one of the leading officers of the San Francisco and New York Mining Company, which is the parent of the subsequent swindle, was sufficient to create unlimited confidence among the California money population. We must add to this, that besides the moral influence exercised by such a name, the Bank of California had allowed in its offices the public exhibition of the diamonds, and other precious stones, alleged to have been found in Arjona. With such a powerful way of exhibiting their stones in the leading financial establishment of California, it was not astonishing to see the rapid and successful progress of Messrs. Roberts and Harpending's organisation. The responsibility incurred by the leading bankers, who have consented to become directors of the San Francisco and New York Company, is a matter of much regret, as it will necessarily effect the credit of their respective establishments in their future introduction of mining project on this side of the Atlantic. We may expect from the San Francisco papers the most astounding disclosures in regard to the degree of responsibility and guilt of the promoters, and also the aiders and abettors of the diamond fraud, which deserves to be inscribed among the most celebrated swindles of the century.

DYNAMITE.—Lieut. Symons, referring to the accidents which have occurred with this explosive, writes—

"Both these accidents might have been avoided had they not been caused by an infraction of strict rules, by the keeping of which all danger would have probably been averted. But then the question arises—to protect what features in this explosive were these rules necessary? Dynamite, one of the most powerful known explosives, which is composed of 75 per cent. of nitro-glycerine, combined with 25 per cent. of a porous siliceous earth into which it is infused, has the defect (owing to the large quantity of nitro-glycerine in its composition) of freezing at the comparatively high temperature of 40° Fahr., when it becomes almost like a brick for hardness, in which state it is incapable of use as an explosive, hence the necessity of warming or thawing it beforehand. No really skilled person, however, would venture to do this by exposure to the naked heat of a fire, but rather by placing it in a dry basin, surrounded by boiling water, till it regained its plasticity, the temperature in this case being about 212° Fahr. and far below the explosive point of nitro-glycerine, which has been estimated at from 340° to 360° Fahr. This same rule applies equally to lithofracture, though the quantity of nitro-glycerine embodied in its manufacture is less, being only 50 per cent.; but as, notwithstanding all rules and advice, workmen are so very careless and reckless in handling it, it would be as well if the dynamite cartridges had plainly printed on them (which the one before me has not) the only safe method of thawing them when they become frozen; or else let mineowners and others seek out and place in the hands of their men such explosive compounds as would readily explode without the necessity of warming or thawing, such as Mr. Horsley's patent blasting powder, which, though relatively about the same strength as dynamite, has not this serious defect, as it explodes at any degree of temperature, and contains only 25 per cent. of nitro-glycerine, which makes it far safer."

NEW ALLOY OR METALLIC COMPOUND.—Mr. C. ADAMS, of Pittsburgh, U.S., has patented an improved alloy designed for journal bearings and other purposes, composed of zinc, iron, copper, and phosphorus. The substance which is found as a residuum of galvanising works, and known as "dross," is composed of zinc and iron in about the proportions of 98 per cent. of the former and 2 per cent. of the latter. These are just about the proportions of the two metals, which when melted together with copper will afford the best result. Take (say) two parts of the dross referred to and two parts of copper, and melt them together in a crucible. These proportions will afford a good metal for journal bearings. For small and strong castings use about one and three quarter parts of the dross and two parts of copper. For sheets use two parts of copper and one and a half part of the dross. The dross is prepared for use by simply melting it and running into pigs. It may then be melted with copper in various proportions, and if desired a small quantity of phosphorus (say) about 1 oz. to 100 lbs. of the alloy, may be added while the alloy is in the crucible in a melted state. By this invention is obtained a metal resembling brass, but which is much cheaper, on account of the substitution and utilisation of the dross or refuse of the galvanising works, for the expensive metal, tin. A metal is also obtained which will not wear when used for journal boxes, a property which has not hitherto been found in any copper alloys.

PREDICTION VERIFIED.—A curious illustration of the power of scientific prediction, even in subjects by no means of a mathematical kind, has just been afforded us. In the "Minerals Statistics of the United Kingdom of Great Britain and Ireland for the year 1871," just published by Robert Hunt, Keeper of Mining Records, the consumption of coal in 1871 is stated at 117,352,928 tons. In Prof. Stanley Jevons' book on "The Coal Question," published more than seven years ago, he estimates the probable consumption of coal in Great Britain for 1871 at 117,900,000 tons.

COLONIAL BANK.

Subscribed capital £2,000,000
Paid-up capital 600,000
Reserve fund 67,000

The Court of Directors of the Colonial Bank hereby give notice that, in pursuance of the provisions of the Charter, a HALF-YEARLY GENERAL MEETING of the proprietors will be HELD at the London Tavern, Bishopsgate street Within, on THURSDAY, 2nd January, 1873, at Two o'clock precisely, to receive the report of the proceedings of the Corporation, and for the election of five directors, and one auditor, in the room of the following gentlemen, who go out by rotation—Jacob Q. Henriques, Esq., Charles Marryat, Esq., John Gurney Hoare, Esq., Vice Admiral Whish, and William Munro Ross, Esq., directors, and of Joseph Henry Marryat, Esq., auditor, all of whom, being eligible, offer themselves for re-election.

The Transfer Books of the Corporation will be CLOSED on the 23rd inst., and re-opened on the 9th January, 1873.

By order of the Court of Directors, C. A. CALVERT, Secretary.
13, Bishopsgate-street Within, E.C., 9th December, 1872.

DELAWARE AND HUDSON CANAL COMPANY SIX PER CENT. DEBENTURES OF 1873.

Notice is hereby given, that the COUPON due January 1st next on the Loan of £500,000, issued through Messrs. Gilead A. Smith and Co., will be PAID by the IMPERIAL BANK (LIMITED), No. 6, Lothbury, on and after that date.

Coupons must be left one clear day for examination.

THE MAMMOTH COPPERPOLIS OF UTAH (LIMITED).

The directors have DECLARED a DIVIDEND at the rate of TEN POUNDS PER CENT. PER ANNUM for the quarter ending 29th September last, PAYABLE on and after the 2nd January, 1873.

Share Warrants to bearer should be deposited at the offices of the company five days before application for the dividend in respect of them.

The Transfer Books will be closed from the 27th December till the 7th January inclusive.

By Order, C. W. COOK, Secretary.
19th December, 1872.

BELOWDA BEACON TIN MINING COMPANY (LIMITED).

Notice is hereby given, that the FIRST HALF-YEARLY COUPON, due 1st January, 1873, for vendors' guaranteed interest, at the rate of TEN PER CENT. PER ANNUM, will be PAID at these offices on and after the above date.

Coupons must be left three clear days for examination.

By Order, JAMES H. CROFTS, Secretary.
No. 1, Finch lane, London, 21st December, 1872.

ISSUE OF £50,000 IN 2400 DEBENTURES OF £25 EACH, bearing interest at 10 per cent. per annum, in half-yearly payments—on 1st January and 1st July, first payment commencing 1st July, 1873. Coupons attached. Secured on the whole property of the Company, payable in seven years by Annual Drawings, with a bonus of 10 per cent. on redemption.

The Drawings to Commence at the End of the Second Year.

THE WEDGWOOD COAL AND IRON COMPANY (LIMITED).

BIDDULPH VALLEY, NORTH STAFFORDSHIRE.

(Incorporated under the Companies Acts of 1862 and 1867.)

The present issue of Debentures will enable the Directors to further develop this well-known Property, and a Trust has been created by which the whole Property and Income of the same is assigned to Trustees to secure the Half-yearly payment of Interest—the amount necessary to meet the Annual Drawings—and the Bonus.

There is already sufficient ore in stock to provide for the payment of the first year's dividend.

The shareholders of the Company take dividend only after the above payments have been made.

Payments—£2 on application, £3 on allotment, and £10 on the 1st February, 1873, and £10 on the 1st April, 1873. Should no allotment be made the application money will be returned in full.

TRUSTEES FOR THE DEBENTURE-HOLDERS.
MATTHEW HUTTON CHAYTOR, Esq., Chairman of the National Discount Company and the Alliance Bank.
The Right Honourable Lord SUFFIELD, Gunton park, Norfolk.
ARTHUR OTWAY, Esq., M.P.

DIRECTORS.
ALEXANDER BURNES ANDERSON, Esq., Director of the Oak

Pitts Colliery, Flintshire.

JOSEPH FRY, Esq., Director of the Vancouver Coal and Land

Company (Limited).

F. R. M. GOSSET, Esq., Director of the Land Mortgage Bank of

India (Limited).

Lieut.-Colonel P. R. INNES, Assoc. Inst. C.E., late Chairman of the

United Bank of India (Limited), Simla, E.I.

II. SANKEY, Esq. (Messrs. Sankey, Son, and Flint, Canterbury).

BANKERS—THE ALLIANCE BANK.
SOLICITORS—Messrs. LEWIS, MUNN, and LONGDEN, 5, Old Jewry, E.C.

BROKER—HENRY SHORER, Esq., 21, Throgmorton-street.

CONSULTING ENGINEER.
JOHN BRUNTON, Esq., M. Inst. C.E., F.G.S., F.R.G.S., &c.

AUDITORS.
Messrs. LOVELOCK and H. W. S. WHIFFIN, 19, Coleman-street, E.C.

SECRETARY, pro tem.—Mr. THOMAS HUNTER.

OFFICES—No. 1, GREAT WINCHESTER STREET BUILDINGS, E.C.

ABRIDGED PROSPECTUS.

The coal and iron property of this company (which is not working) is situated in the heart of the coal and iron district of North Staffordshire, and consists of about 350 acres, and is held on lease for 29½ years from 21st June, 1871.

Mr. John Brunton, M. Inst. C.E., of 13A, Great George-street, Westminster, has fully investigated and reported upon the property. This report, dated 20th November, 1872, is delivered with the prospectus.

Mr. Brunton reports that there are no less than 22 seams of coal, varying from 2 to 8 feet, and exhibiting an aggregate thickness of 80 feet 2 in., and estimates the total workable quantity of coal at 30,000,000 of tons.

And further, as to ironstone—"I have carefully estimated the amount of ironstone which can be calculated on as the yield of the Brownie and Burnwood seams, and I arrive at the result of 2,557,427 tons."

He further estimates that—"with the present appliances 200 tons of coal and 150 tons of calcined ironstone may be produced per day."

And he further estimates that the net profit for 1873, after paying interest on bonds and expenses of management, available for dividend and for the further development of the property, will be £36,500.

And the deed securing the property of the trustees, together with maps, plans, sections, geological survey, Mr. Brunton's report, &c., can be seen at the offices of the solicitors of the company, Messrs. Lewis, Munn, and Longden, No. 5, Old Jewry, E.C.; or at the offices of the company, No. 1, Great Winchester-street-buildings, E.C., where detailed prospectuses and forms of application may be obtained.

COMPENSATION CLAIMS ADJUSTED, BOOKS AND

ACCOUNTS KEPT IN ORDER, PERIODICAL STATEMENTS OR BALANCE SHEETS PREPARED, AND COMPETENT CLERKS PROVIDED TO

WORK UP ARREARS, or render TEMPORARY ASSISTANCE, at moderate charges; also, DEBTS and RENTS COLLECTED, with promptitude and dispatch, by—

R. M. RING AND CO., ACCOUNTANTS AND FINANCIERS,
33, BUCKLESBURY, CITY, E.C.

THOMAS TREWEKE AND SONS,

CONSULTING MINING ENGINEERS, MINE AND MINERAL

SURVEYORS, DIALLERS, AND GENERAL FINANCIAL AGENTS.

Accurate Plans and Sections furnished. Mines examined and truthfully reported upon. Mine Purveyors and Managers, Promoters of Public Companies, Accounts investigated, and Balance Sheets prepared.

Account meetings attended on behalf of distant shareholders.

Sixty years' experience in almost every mine in Cornwall and Devon, also of mines in Somerset, Yorkshire, and Scotland, and equally conversant with almost all the best mines in California and America.

P.S.—Five years' purchase is generally the correct rule by which to purchase Mine Shares.

HEAD OFFICE.
ST UNY LELANT, HAYLE, CORNWALL.

MESSRS. THOMAS BORLAZE AND CO.,

MINERAL, ENGINEERING, FINANCIAL, AND

GENERAL AGENTS.

Respectfully announce their readiness to INSPECT, VALUE, REPORT, and ADVISE, confidently, INVESTORS in any matter in the above capacities.

Unquestionable references and securities offered where required.

OFFICES.—ST. AUSTELL, CORNWALL.

MESSRS. CAMERON AND CO., FINANCIAL AGENTS

AND SHARE BROKERS,
BRIDGE STREET CHAMBERS, CHESTER.

CAPTAIN ABSALOM FRANCIS,

GOGINAN, ABERYSTWITHE,

MINING AGENT, ENGINEER, AND SURVEYOR.

The great success which is attending the opening and working of the Mines in the counties of Cardigan and Montgomery, and the many properties placed at the disposal of Capt. ABSALOM FRANCIS, induce him to offer his services either to ADVISE, INSPECT, REPORT, or SURVEY, for Mining Companies or private shareholders.

For terms, apply to Capt. ABSALOM FRANCIS, as above.

MR. CHARLES F. COLLOM,

MINING ENGINEER, INSPECTOR OF MINES, &c.

TAVISTOCK.

MANAGEMENT OF THE SOUTH DEVON FIRE-CLAY COMPANY.

Patentee of COLLOM'S PATENT REVOLVING FRAME for DRESSING TIN, AMALGAMATING GOLD, &c.

INVESTMENTS IN MINES ARRANGED FOR CAPITALISTS.

IN the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the EAST PROVIDENCE MINING COMPANY.—Notice is hereby given, that a PETITION for the WINDING-UP of the ABOVE-NAMED COMPANY by the Court was, on the 13th day of December instant, presented to the Vice-Warden of the Stannaries by William John Rawlings, on behalf of himself and Robert Hichens Bamfield and James Mudge, as being the Committee of Management of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Prince's Hall, Truro, in the county of Cornwall, on Wednesday, the 8th day of January next, at Eleven o'clock in the forenoon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, his solicitors, or their agents, of his intention to do so, such notice to be forthwith forwarded to P. P. SMITH, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same, from the petitioner, his solicitors, or their agents, within 24 hours after requiring the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before Monday, the 6th day of January next, and notice thereof must be given to the petitioner, his solicitors, or their agents.

HODGE, HOCKIN, AND MARRACK, Truro
(Solicitor for the Petitioners).

GREGORY, ROWCLIFFES, AND RAWLE, 1, Bedford-row, London
(Agents of the said Solicitors).

Dated Truro, the 19th day of December, 1872.

In Chancery.

PEGG v. PEGG.

THE BIRCHGROVE GRAIGOILA STEAM COAL COLLIERIES, SITUATE AT LLANSAMLET, NEAR SWANSEA, GLAMORGANSHIRE.

MESSRS. NORTON, TRIST, WATNEY, AND CO. WILL

OFFER FOR SALE, at the Mart, Tokenhouse-yard, London, on Tuesday, 21st January, 1873, at Two o'clock, in One Lot, pursuant to an Order of the Court, and with the approbation of the Judge to whose Court this cause is attached, the VERY VALUABLE MINERAL PROPERTY known as the

BIRCHGROVE GRAIGOILA STEAM COAL COLLIERIES,

Together with the fixed MACHINERY, STEAM ENGINES, PLANT, and ROLLING STOCK, situate in the Swansea Valley, in the parish of Llanisamlet, together with shipping wharf, office, store-house, lodge, and stable, situate in the New Cut, in the hamlet of St. Thomas, Swansea, in the county of Glamorgan, in the midst of iron, copper, tin-plate, and patent fuel works and steel manufacturing, and about five miles from the seaport town of Swansea, and directly connected therewith by the Swansea Vale Railway, branching into the colliery yards.

The collieries immediately adjoin the Dynevor, Neath Abbey, and Benson's Graigoila Collieries, and are worked by two pits, one called the Birchgrove Pit, 60 fathoms deep, and the other the Sisters' Pit, 75 fathoms deep, both sunk to the Graigoila vein, now at work, and producing coal daily. The vein of coal called the Brindewi Graigoila, so celebrated for its quality (being on the Government list), and shipped to France, Ireland, and other places, is now being worked, together with the "R. Edmund" vein lying above it. A vein of coal, called the Drumma Level vein, varying in thickness from 1 ft. to 3 ft. and 2 in., was formerly proved and partially worked in the Drumma level, which is favourably situated for working, and is near to the Sisters' Pit Colliery, and in close proximity to the Swansea Vale Railway for shipment.

The area of minerals is about 753 acres, 630 acres of which are held upon two leases for terms of 45 years from 1852, and one of these leases is subject to a dead rent of £500 per annum, a royalty of 9d. per ton for coal and culm, and moderate royalties on other minerals, and the other lease is subject to similar royalties. The remaining 123 acres are held for a term of 21 years from 1855, at a royalty of 9d. per 2404 lbs. The surface area, comprising Drumma Isha Farm (upon which two commodious residences have been erected, with coach-houses, out-houses, green-houses, and extensive gardens well stocked with fruit trees, pleasure grounds, and plantations, the whole being supplied with water), coal yards, pits, &c., containing about 50 acres, held for a term of 45 years from 1852 at rents amounting together to £68 per annum. Also, land at Drumma and Glyn-y-goise, containing about 228 A. 2 R. 28 P., used for farming purposes, and held on a yearly tenancy at a rent of £280 per annum.

May be viewed on application to Mr. EVAN DANIEL, Mining Engineer, Swansea.

Particulars, with plan and sections, may be had of W. M. HAGON, Esq., Solicitor, 15, Fenchurch street, London, E.C.; of C. M. C. WHATMAN, Esq., Solicitor, Salisbury; of Messrs. GREGORY, ROWCLIFFES, AND RAWLE, Solicitors, 1, Bedford-row, London; of Messrs. GRAY and MOUNSEY, Solicitors, 9, Staple Inn, Holborn, London; of Messrs. DEACON, SON, and ROGERS, Solicitors, Doctor's Commons, London; of N. S. E. STEINBERG, Esq., Solicitor, 35, Broad-street, London; of Mr. EVAN DANIEL, Swansea; and of the Auctioneers, 62, Old Broad-street, Royal Exchange, London, E.C.

TO COAL MASTERS AND OTHERS INTERESTED

IN MINING.

THE UNWORKED PORTIONS OF THE LOWER MINES in the

ESTATE belonging to Sir G. H. BEAUMONT, Bart. at COLEORTON, in the county of LEICESTER, containing SEVERAL HUNDRED ACRES, are now OFFERED TO CAPITALISTS, and may be made the subject matter of treaty by lease.

These mines are now worked extensively in the neighbourhood, and command a ready market for steam and household purposes. The estate communicates with the Midland Railway by the line of the Coleorton Railway, and the line of the Derby and Ashby-de-la-Zouch Railway, and so is most favourably situated for the development of the coal field.

Application for permission to view may be made to Mr. E. FISHER, Solicitor, Ashby-de-la-Zouch; or to Mr. J. T. WOODHOUSE, Civil and Mining Engineer, Derby.

FOR SALE, the ANTHRACITE COAL MINES OF SAINT

SYMPHOREN-DE-LAY (LOIRE), FRANCE. These mines, whose grant

extends over an area of 1100 hectares, are situate in the vicinity of the Amplepuis Terminus, on the railroad from Roanne to Lyon.

They are in full work, and although the work of hauling has been very limited, still they have rendered a very safe revenue until now, as shown by the inventories of the last eight years.

For negotiations and further particulars address Mr. OULMANN, Public Notary at Lyon, 91, Rue de l'Hotel-de-Ville.

GEORGEHAM, NORTH DEVON.

TO BE SOLD, BY PRIVATE CONTRACT, a VALUABLE

ESTATE, known as

BUCKLAND,

In the parish of GEORGEHAM, DEVON, midway and on the line of railway

which is now being made between the towns of Barnstaple and Ilfracombe, containing about 181 acres, lying in the centre of a district abounding in iron ore, and which is now being extensively raised on the properties immediately adjoining on the north, east, and west sides, and the lodes are believed to pass under this property.

The estate is held by a tenant under a lease for 21 years, which expires at Lady-day, 1874, in which the minerals are excepted, but earlier possession may be had by arrangement with the tenant.

Price, and any further information, may be obtained on application to Mr. GEORGE BROWN, Land Agent, Barnstaple.

Dated Barnstaple, July 17th, 1872.

RARE OPPORTUNITY FOR MAKING A FORTUNE.

TO BE SOLD, PART OR ENTIRE (former preferred) of a

COLLIERY ROYALTY IN NORTH WALES, bordering on the London and

North-Western Railway, and close to a shipping port. There are several shafts partially sunk, some requiring to be sunk still deeper, but operations stopped for want of capital. There are four seams of good house and steam coal proved in an area upwards of 400 acres of surface. Holder will sell the entire, including the present plant (not sufficiently powerful for sinking further) for £4000, but would prefer taking a PARTNER, who would advance the necessary capital for half profit, which in the present state of the coal trade are almost fabulous.

Address, "Vulcan," care of Mr. Watson, 15, Fenwick-street, Liverpool.

STEAM ENGINE.

TO BE SOLD, cheap, a GOOD 36 in. PUMPING ENGINE, 8 ft

stroke in shaft, 9 ft. in cylinder, with or without a 10 ton BOILER. Also

iron Rings for a 40-ft. WATER WHEEL and PITWORK of various sizes.

Apply to GEORGE PROUT, Lumbarn Foundry, Tavistock.

TO BE SOLD,

BEAM ENGINE, 16½ inch cylinder, high pressure or condensing,

in good working trim, with foundation stones, complete.

PORTABLE ENGINES, for SINKING, MINING, or GENERAL

PURPOSES, from 10 to 30-horse power, IN STOCK, or in PROGRESS OF

CONSTRUCTION.

Full particulars on application to—

BADGER AND SON,

ENGINEERS, ROTHERHAM.

FOR SALE.

A DOUBLE-ACTING ROTARY ENGINE,

36 in. cylinder, 9 ft. stroke.

With 12 ton FLY WHEEL. All as good as new.

Also, a 10 ton CORNISH BOILER.

With necessary fittings.

Can be viewed, and particulars obtained, on application to Capt. JOHN PAULY, Llanidloes, Montgomeryshire.

FOR SALE, a high-class 18-horse power double-cylinder

PORTABLE STEAM ENGINE, with link motion, reversing gear, suitable

for pumping, winding ore, crushing, &c.

Also, a 16-horse power single cylinder PORTABLE STEAM ENGINE, with or without reversing gear. The above are ready for immediate delivery.

PORTABLE ENGINES, 3 to 35-horse power; WINDING and PUMPING GEAR; MORTAR MILLS; SAW TABLES; VERTICAL ENGINES, &c., supplied promptly.

SEVERAL GOOD SECONDHAND PORTABLES FOR SALE.

BARROWS AND STEWART, ENGINEERS, BANBURY.

TO INVENTORS AND PATENTEES OF TUNNELLING

AND COAL-GETTING MACHINES.

A COLLIERY COMPANY in NORTH WALES, having sunk their

pits to the coal, are desirous of EMPLOYING MACHINERY for the purpose of MORE RAPIDLY DRIVING THEIR MAIN WAGON ROADS and RETURN AIR COURSES, the seam being about 7 feet thick.

Mr. HENRY DENNIS, HAFOD-Y-BWCH, RUABON, will be glad to receive PLANS and SPECIFICATIONS of such MACHINES, the COST, and the NECESSARY APPLIANCES to WORK the same.

"BILLIA," "DURLO," OR THE "GEW" CONSOLIDATED

MINES.

IT having been reported that negotiations are still being continued

between Messrs. J. B. COULSON and Co., and Capt. CRAZE, of the Berehaven Mines, Ireland, for a SALE and PURCHASE of this property, notice is hereby further given, that as soon as the sale shall have been effected a BILL will be FILED in the Court of Equity for the SPECIFIC FULFILMENT of an existing

contract for the PURCHASE of the SAME, and on account of which we have paid the sum of £495 (including interest) to the vendors in cash.

THOS. TREWEEKE AND CO.

7, Bedford-row, London, 15th September, 1872.

GREENHURTH MINE, HAREWOOD, DURHAM.

CAUTION TO INTENDING PURCHASERS.

I HEREBY GIVE NOTICE that I intend forthwith to

PROSECUTE MY CLAIM to the SHARES belonging to me in this mining

company, constituting ONE FOURTH of the WHOLE MINE—such shares now

being, as I am informed, claimed by the company under an alleged forfeiture.

There having been no such forfeiture of my said shares, I beg to CAUTION the PUBLIC against PURCHASING the SAME or any of them until the suit in

Chancery which I am about to commence is disposed of.

(Signed) UTRICK VIPOND.

Sandgate, Penrith, Cumberland, Nov. 13, 1872.

TO BE LET.

VIGRA AND CLOGAU MINES, MERIONETHSHIRE.

THE COMMISSIONER OF WOODS, &c., in charge of Her

Majesty's Land Revenue in Wales, is PREPARED TO RECEIVE TENDERS for an AGREEMENT for a LEASE of the ABOVE-NAMED MINES,

situate in the parish of LLANABER, about midway between DOLGELLY and BARMOUTH.

Particulars and conditions of the Letting, and Forms of Tender, may be obtained on application to The Hon. JAMES K. HOWARD, Office of Woods, &c., London, S.W.

Tenders must be sent in on or before the 31st December, 1872.

MINERALS TO BE LET.

TO BE LET, BY TENDER, all the MINERALS above, and

including the No. 3 RHONDDA SEAM, lying under the several Farms,

called Cood-y-llyn, Tyn-y-coed, Llanidloes, Tycha, and Gelly-seen, and the

estate situate in the several parishes of LLANIDLOES and LLANTRISANT, in the EL

VALLEY, GLAMORGANSHIRE, containing together by admeasurement 587 acres

or thereabouts.

The property is most advantageously situated, being only distant 16 miles by the

present route from the port of Cardiff, with which the property is connected by

BICKFORD'S PATENTFOR CONVEYING
CHARGE IN**SAFETY FUSE,**FIRE TO THE
BLASTING ROCKS, &c

Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at the "INTERNATIONAL EXHIBITION" of 1855; at the "IMPERIAL EXHIBITION," held in Paris, in 1855; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; at the "UNIVERSAL EXHIBITION," in Paris, 1867; and at the "GREAT INDUSTRIAL EXHIBITION," at Altona, in 1869.



BICKFORD, SMITH, AND CO.,
of TUCKINGMILL, CORNWALL, MANUFACTURERS AND ORIGINAL PATENTEES OF SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—
EVERY COIL OF FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM TWO SUCH SEPARATE THREADS as THEIR TRADE MARK.

For Excellence
and Practical Success
of Engines



Represented by
Model exhibited by
this Firm.

HARVEY AND CO.,
ENGINEERS AND GENERAL MERCHANTS,
HAYLE, CORNWALL,
HAYLE FOUNDRY WHARF, NINE ELMS, LONDON,
AND 115, GRESHAM HOUSE, E.C.

MANUFACTURERS OF
PUMPING and other LAND ENGINES and MARINE STEAM ENGINES the largest kind in use, SUGAR MACHINERY, MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL.
SHIPBUILDERS IN WOOD AND IRON.

SECONDHAND MINING MACHINERY FOR SALE,
In First-Rate Condition, at Moderate Prices.
PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES
STEAM CAPSTANS; and CRUSHERS of various sizes. BOILERS, PIT-
WORK of all descriptions, and all kinds of MATERIALS required for
MINING PURPOSES.

THE PATENT PNEUMATIC STAMPS
May be SEEN AT WORK at HAYLE FOUNDRY WHARF, NINE ELMS,
by previous application at either of the above addresses.

JOHN AND EDWIN WRIGHT,



PATENTEES.
(ESTABLISHED 1770.)

MANUFACTURERS OF EVERY DESCRIPTION OF
IMPROVED

PATENT FLAT AND ROUND WIRE ROPES
from the very best quality of charcoal iron and steel wire.

PATENT FLAT AND ROUND HEMP ROPES,
SHIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CON-
DUCTORS, STEAM PLOUGH ROPES (made from Webster and Horsfall's
patent steel wire), HEMP, FLAX, ENGINE YARN, COTTON WASTE,
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UNIVERSE WORKS, MILLWALL, POPLAR, LONDON.
UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM.
CITY OFFICE, No. 5, LEADENHALL STREET, LONDON, E.C.

ECONOMY AND EFFICIENCY COMBINED.

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EQUALLY APPLICABLE to ALL CLASSES of MINERAL, and effect
an IMMENSE SAVING OF POWER and COAL. Stamps ready for delivery can
usually be shown in operation, and working model can always be seen.
These stamps are fitted with a NEW KIND OF BED, giving four grates to
each stamp. Licenses granted to adapt the arrangement to existing stamps, to
which it is equally applicable. Also,
WALKER'S DIRECT PLAN OF AMALGAMATION, RETORTS, &c.
PRESSSES for PACKING WOOL and COTTON in the Colonies.

JOHN WALKER, MINING AND COLONIAL ENGINEER,
12, JAMES STREET, OLD STREET, LONDON.

GIRDWOOD'S

PATENT RECIPROCATING CRUSHER
Is the SIMPLEST and BEST PULVERISER in existence. It will do BETTER
WORK, and MORE OF IT, on same power than any other yet invented.
Apply for terms to GEORGE GREEN, Aberystwith; or to the patentee,
ROBERT GIRDWOOD, Edinburgh.
MAY BE SEEN AT WORK at GREAT DARREN MINE, NEAR
ABERYSTWITH.

**THE PATENT SELF-ACTING MINERAL DRESSING
MACHINE COMPANY (LIMITED).**

T. CURRIE GREGORY, MINING ENGINEER.
OFFICES,—82, ST. VINCENT STREET, GLASGOW.

This company grant licenses, under their patents, for the use, singly or in combination, of the most approved machinery for dressing ores, comprising Stamps, Jiggers, Side-blow Percussion Tables, Classifiers, and Buddles.
The whole in combination are in successful operation at Rhoswydol Mines, Machynlleth, the Bog Waste, Shropshire, Darren and Gertrude Mines, Cardiganshire.
The Jiggers are largely used at the Van, Caldbeck Fells Mines, and at many mines, with unqualified success.
Self-acting Floors are in course of construction at various mines in England and Scotland, regarding which Mr. GREGORY will be pleased to give information, answer all enquiries, and give orders for inspection.

Mr. GEORGE GREEN, of Aberystwith, the company's mechanical engineer, is prepared to give designs and estimates, or contract for the supply of machinery, and for the laying out of floors.
He is doing a large business in the supply of Dressing Machinery for the treatment of Gold and Silver Ores in Foreign Parts, and all classes of ore at home.
He has devoted himself to the perfecting of Self-acting Dressing Machinery, and has, by his inventions, greatly conduced to the success of the system.
T. CURRIE GREGORY, Secretary.

M'TEAR AND CO.'S CIRCULAR ROOFING FELT



FOR
GREAT ECONOMY
AND
CLEAR WIDE SPACE.
For particulars, estimates,
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CORPORATION STREET
BELFAST.

The above drawing shows the construction of this cheap and handsome roof, now much used for covering factories, stores, sheds, farm buildings, &c., the principals of which are double bow and string girders of best pine timber, sheathed with 1/4 in. boards, supported on the girders by purlins running longitudinally, the whole being covered with patent waterproof roofing felt. These roofs so combine lightness with strength that they can be constructed up to 100 ft. span without centre supports, thus not only affording a clear wide space, but effecting a great saving both in the cost of roof and uprights.
They can be made with or without top-lights, ventilators, &c. Felt roofs of any description executed in accordance with plans. Prices for plain roofs from 30s. to 60s. per square, according to span, size, and situation.
Manufacturers of PATENT FELTED SHEATHING, for covering ships' bottoms under copper or zinc.
ODOROUS FELT for lining damp walls and under floor cloths.
DRY HAIR FELT, for deadening sound and for covering steam pipes, thereby saving 25 per cent. in fuel by preventing the radiation of heat.
PATENT ASPHALTE ROOFING FELT, price 1d. per square foot.
Wholesale buyers and exporters allowed liberal discounts.
PATENT ROOFING VARNISH, in boxes from 3 gallons to any quantity required 5d. per gallon.

THE HOWARD SAFETY BOILER,

HUNDREDS ARE NOW IN USE, AND THE DEMAND IS UNPRECEDENTED.

Some of its advantages:—
NOT LIABLE TO DANGEROUS EXPLOSIONS.
HIGH-PRESSURE STEAM, WITH ECONOMY OF FUEL.
PERFECT CIRCULATION, AND READY MEANS OF REMOVING SEDIMENT.
SAVING OF COST AND TIME IN REPAIRS.
PORTABILITY, AND, FOR EXPORT, GREAT SAVING IN FREIGHT.

Patentees and Manufacturers: **J. and F. HOWARD, BRITANNIA IRONWORKS, BEDFORD.**
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Manufacturers of

CRANE, INCLINE, AND PIT CHAINS,

Also CHAIN CABLES, ANCHORS, and RIGGING CHAINS, IRON and STEEL SHOVELS, SPADES and FORKS, ANVILS, VICES, SCYTHES, HAY and CHAFF KNIVES, PICKS, HAMMERS, NAILS, RAILWAY and MINING TOOLS, FRYING PANS, BOWLS, LADLES, &c., &c.
Crab Winches, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions,
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THE "CHAMPION SAW DUST" MINING POWDER.

SAFE in Storage and Transport.
SMOKELESS, made without Sulphur.
NO DANGER IN USE.
NOT SPOILT BY DAMP.

THREE times stronger than the best black Blasting Powder when fired by a fuse.
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BOLTS AND NUTS. BOLTS AND NUTS.

MADE BY PATENT MACHINERY.

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AN EXTENSIVE ASSORTMENT OF OVER 200 TONS ALWAYS IN STOCK.

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THE DON ECONOMIC LUBRICATING OIL

IS 40 PER CENT. CHEAPER THAN THE ORDINARY KINDS.

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Any company desirous of trying it before adopting it may do so at our risk and expense.
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BLASTING FUSE FOR MINING AND ENGINEERING PURPOSES.

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W. BENNETTS, having had many years' experience as chief engineer with Messrs. Bickford, Smith, and Co., is now enabled to offer Fuse of every variety of his own manufacture, of best quality, and at moderate prices.
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DEATH OR INJURY FROM ACCIDENT,
WITH THE CONSEQUENT
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PROVIDED FOR BY A POLICY OF THE
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AGAINST ACCIDENTS OF ALL KINDS.

An annual payment of £3 to £5 ss. insures £1000 at death, or an allowance a title rate of £8 per week for injury.
£650,000 have been paid as compensation—
One out of every twelve Annual Policy Holders becoming a claimant each year.
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CATALOGUES FREE BY POST.

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Mortar Mills,
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Gear for Pumping,
Winding,
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Portable
Steam Engines,
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PATENT STEAM EARTH-BORING MACHINES FOR MINERAL EXPLORATIONS AND WATER SUPPLY,

Capable of BORING HOLES from 6 to 36 in. diameter, and to any depth to 2000 ft.

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PATENT DRUM WINDLASSES,
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This Engine is specially commended to Mining Engineers and others, as by its adoption—
Haulage along inclined drifts is easily and cheaply effected;
The expense of sinking new shafts is greatly reduced, neither foundations nor engine-house being required;

It is available not only for winding, but for pumping, sawing, &c.—a great desideratum at a large colliery;

It can be very quickly removed (being self-propelling), and fixed in any desired position.

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THESE ENGINES WORK WITH MARVELLOUS ECONOMY IN FUEL.

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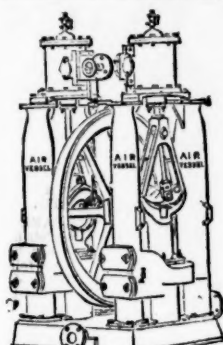
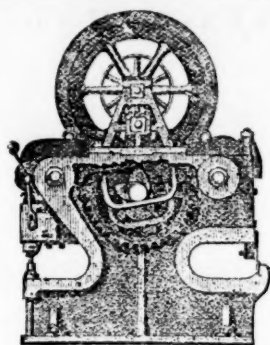


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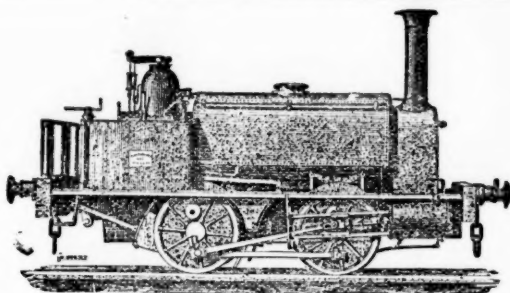
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The advantages of these furnaces are, in the first place, they effect a saving of from 25 to 50 per cent. in fuel.
2ndly, The use and expense of grate-bars are dispensed with, as these furnaces have closed fire-places, formed in brickwork.
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4thly, They have a purer flame, the combustion is more complete, and contains less free or unmixed air or gases.
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PUNCHING MACHINE, BAR SHEARS, AND RAIL
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CAST STEEL PISTON RODS, CRANK PINS, CON-
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AXLES, SHAFTS and
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DOUBLE SHEAR STEEL
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Springs and Buffers.

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Where the largest stock of steel, files, tools, &c., may be selected from.

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THE BEST TOOL FOR BORING HOLES
in the GROUND, to any depth, supplied in
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PANIES, BUILDERS, DOCKYARDS, &c., in GER-
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WONDERFUL MEDICAL DISCOVERY.
Showing the true causes of Nervous, Mental, and Physical Debility,
Lowness of Spirits, Indigestion, WANT OF ENERGY, PREMATURE DECLINE,
with plain directions for PERFECT RESTORATION TO HEALTH and VIGOR IN
A FEW DAYS.
The most important fact that these alarming complaints may easily be removed
WITHOUT MEDICINE
is here clearly demonstrated, and the entirely new and highly successful treatment,
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EVERYONE IS ENABLED TO CURE HIMSELF
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<i>Shares.</i>	<i>Mines.</i>	<i>Paid.</i>	<i>Last Pr.</i>	<i>Clas. Pr.</i>
12000	Tamar Consols, <i>s</i> , Lifton, Devon	1 0 0.	2½	2½
3879	Tam Valley, <i>s</i> , A, Beraleston	1 7 6.		
10000	Tan-y-Allt, <i>t</i> , Carnarvon	3 0 0.		
4000	Teign Valley, <i>t</i> , <i>ber</i> , Bridford	1 0 0.		
5500	Tin Hill, <i>t</i> , St. Stephens	1 13 0.		
5536	Tin Valley, <i>t</i> , St. Nest	1 13 0.		
12000	Trannack West Trevelyn, <i>t</i> , Sidiency	10 0 0.		
5000	Treleigh Wood, <i>t</i> , Redruth	15 0 0.	25	
1024	Treleigh Wood United, <i>t</i> , Redruth	1 0 0.	4	1½
547	Trelyen Consols	10 0 0.	4½	4½
12000	Trethellan, <i>s</i> , A, Crantock	2 0 0.		
7500	Trevelyn, <i>t</i> , Altarnun	2 5 0.		
2048	Trevearack, <i>t</i> , <i>c</i> , Uny Lelant	4 12 6.		
406	Trewharth, <i>s</i> , Menheniot	11 14 6.		
200	Tucker's Downs, Cornwall	2 0 0.		
6000	Unity Wood, <i>t</i> , <i>c</i> , Kenwyn	1 10 0.		
15000	Van Consols, <i>t</i> , Llanidloes	2 10 0.	6½	6½
1000	Vaughan, <i>s</i> , <i>t</i> , Cardigan	5 0 0.		
20000	Victoria, <i>t</i> , Perranzabuloe	1 0 0.		
20000	Virtuous Lady, <i>c</i> , <i>t</i> (5000 pt. pd.)	1 0 0.		
2500	Vron United, <i>s</i> , <i>t</i> , Flintshire	1 0 0.		
30000	Welsh, <i>t</i> , Cardigan	1 0 0.		
12000	West Gwynn Consols, <i>c</i> , Illogan	3 16 8.	8½	8½
110592	West Cadair, <i>c</i> , Illogan	1 10 0.	3½	3½
100	West Condurrow, <i>t</i> , <i>c</i> , Camborne	5 0 0.		
12800	West Drake Wells, <i>c</i> , Calstock	0 14 0.		
6000	West Espair Le, <i>t</i> , Cardigan	2 0 0.	3	3½
5000	West Godolphin, <i>t</i> , <i>c</i> , Breage	1 6 0.	2½	2½
12000	West Goginan, <i>c</i> , Cardiganshire	3 0 0.	2½	2½
5164	West Great Work, <i>t</i> , Breage	3 16 0.	1½	
1000	W. Gwennap Consols, <i>t</i> , <i>c</i> , Gwennap	5 0 0.		
1000	West Level, <i>t</i> , Gwennap	2 0 0.		
10000	West Llangynog, <i>c</i> , <i>t</i> , Montgomery	2 0 0.		
12000	West Maria and Fortescue, <i>c</i> , Llaner	4 4 0.	1½	1½
12000	West Pant-y-Go, <i>s</i> , <i>t</i> , Flint	1 0 0.	1½	1½
3000	West Phenix, <i>t</i> , Linkinhorne	0 13 0.	½	½
2500	West Polbreen, <i>t</i> , St. Agnes	3 0 0.	4	4½
4190	West Rose Down, <i>c</i> , Linkinhorne	5 15 7.		
12000	West Silverstons, <i>t</i> , Salop	1 0 0.		
12000	West Tankerville, <i>t</i> , Salop	8 0 0.	3½	3½
612	West Trevelyn, <i>t</i> , <i>c</i> , Lelant	77 0 0.	20	15 20
2000	West Wheel Lucy, <i>t</i> , <i>c</i> , Lelant	3 0 0.		
6000	West Wheel Gordan, <i>t</i> , <i>c</i>	3 0 0.	3½	3½
6000	Wheel Agar, <i>c</i> , Illogan	9 12 0.		
6000	Wheel Argus, <i>t</i> , Sancered	0 10 0.	2	1½
741	Wheel Basset and Grylls, <i>t</i>	9 8 6.		
612	Wheel Buler, <i>c</i> , Redruth	49 15 0.	19	17 19
6000	Wheel Coates, <i>t</i> , St. Agnes	2 0 0.		
6000	Wheel Emma, <i>c</i> , Tavistock	3 8 0.		
1924	Wheel Daniel, <i>t</i> , <i>c</i> , Chace	2 0 0.	1½	3½
8000	Wheel Ennor, <i>c</i> , <i>c</i> , Buckfastleigh	1 5 0.		
811	Wheel Emily Henrietta, <i>c</i> , Illogan	26 10 0.	3	2 3
5120	Wheel Gnamber, <i>c</i> , <i>t</i> , Redruth	0 7 0.		
15000	Wheel Henry, <i>c</i> , <i>t</i> , Redruth	0 10 0.		
12000	Wheel Jewell, <i>c</i> , Marazion	2 1 0.		
5000	Wheel Lucy, <i>t</i> , Phillack	1 0 0.		
10000	Wheel Mary, <i>t</i> , St. Dennis	1 0 0.		
6000	Wheel Orleans, <i>t</i> , Crow	3 0 0.	8½	5½
3000	Wheel Peevor, <i>t</i> , Redruth	1 0 0.	1½	2
6000	Wheel Ramoth, <i>t</i> , Perranporth	0 5 0.		
10000	Wheel Ruby, <i>t</i> , Ludgvan	1 0 0.		
396	Wheel Seton, <i>t</i> , <i>c</i> , Camborne	69 10 0.	40	
4568	Wheel Sparnon, <i>t</i> , Redruth	4 0 0.		
1000	Wheel Speedwell, <i>t</i> , <i>c</i> , Breage	1 0 0.		
1290	Wheel Treagoc, <i>c</i> , Sidiency	13 3 3.		
15000	Wheel Triggers, <i>t</i> , <i>c</i> , Roche	1 0 0.	1½	1½
8000	Wheel Vincent, <i>t</i> , Altarnun	1 1 6.		
8000	White Works, <i>t</i> , Dartmouth	5 10 0.		
12000	Willoughby, <i>t</i> , Llanrwst	2 10 0.		
1000	Wood Close & Polgoath, <i>t</i> , St. Mew	2 10 0.		
400	Wye, <i>t</i> , Llanidloes	20 0 0.		

Shares.	Company.	Paid.	Price.
£100	John Abbot and Co. [L.]	£75 0 0	1 ½ dis.
15	Albion Steel and Wire Co. [L.]	10 0 0	1 ½ dis.
100	Asbury Co. [L.]	90 0 0	40 35 dis.
10	Benhar Coal Co. [L.]	7 0 0	5½ 5½ dis.
60	Bilbao Iron Ore Co. [L.]	10 0 0	½ dis. par
50	Blaekavon Iron and Steel Co. [L.]	37 10 0	—
50	Bolton, Vaughan, and Co. [L.]—A	35 0 0	12 14 pm.
30	Ditto	30 0 0	11 13 pm.
100	Brown, John, and Co. [L.]	40 0 0	5½ 6½ pm.
100	Carnell and Co. [L.]	80 0 0	5 4 dis.
60	Central Swedish Iron and Steel [L.]	30 0 0	6 1 2 pm.
50	Charlton Iron Co. [L.]	7 10 0	1½ 2 pm.
10	Chillingham Iron Co. [L.]	6 0 0	2½ 1½ dis.
10	Conselt Iron Co. [L.]	7 10 0	9 10 pm.
20	Darlington Iron Co. [L.]	8 0 0	—
20	De La Wale Co. [L.]	27 10 0	4 3½ dis.
5	Fairbairn Engineers	20 0 0	½ dis. 9 par.
20	General Mining Association [L.]	1 10 0	¾ ¾ dis.
10	Glasgow Port Washington [L.]	10 0 0	¾ ¾ dis.
15	Hopkins, Gilkes, and Co. [L.]	8 0 0	3½ 4 pm.
10	Ince Rolling Mills [L.]	8 0 0	3½ 4 pm.
10	Lydney and Wigpool Iron Ore [L.]	6 0 0	½ dis. ½ pm.
10	Marbella Iron Ore Co. [L.]	10 0 0	8 8½ pm.
10	Merry and Cunningham [L.]	3 10 0	¾ ¾ pm.
50	Merry Steel and Iron Co. [L.]	5 0 0	—
5	Mold Argued Colliery Co. [L.]	5 0 0	par.
10	Monkland Iron and Coal Co. [L.]	7 10 0	—
10	Midland Iron Co. [L.]	5 0 0	18½ 16 pm.
4	Mwyndy Iron Ore [L.]	3 10 0	2½ 2½ dis.
100	Nant-y-Glo and Blaitha (8 p.c. pref.)	100 0 0	87½ 90
1	Nerbudda Coal and Iron	0 8 0	¾ ¾ dis.
10	N. of Ireland Iron Company [L.]	3 0 0	—
10	Northampton, Coal, Iron & Wagon [L.]	3 0 0	1 1½ pm.
5	Palmer's Shipbuilding and Iron [L.]	35 0 0	3 2½ dis.
100	Parkgate Iron Co. [L.]	6 0 0	23 25 pm.
20	Patent Shaft and Axletree [L.]	20 0 0	7 7½ pm.
50	Phoenix Bessemer Co. [L.]	20 0 0	4¾ 5 pm.
50	Rhymney Iron Co. [L.]	50 0 0	43 48 pm.
50	Shotts Iron Co.	50 0 0	20 22 pm.
100	Sheepbridge Iron and Coal [L.]	55 0 0	8½ 9½ pm.
10	Sheffield Forge and Rolling Mill [L.]	2 10 0	1 1½ pm.
4	Silkstone Fall Colliery Co. [L.]	4 0 0	—
50	Skelmer's Ironworks [L.]	15 0 0	5 3 dis.
25	Swansea Ironworks [L.]	60 0 0	67 69 pm.
100	Stratford Iron and Steel Co. [L.]	10 0 0	11½ 12½ pm.
100	Ditto ditto	7 0 0	—
20	South Cleveland Ironworks [L.]	20 0 0	—
100	Thames Iron Company	100 0 0	9 11 pm.
7½	Titanic Iron and Steel	5 0 0	—
10	Vancouver Coal [L.]	6 0 0	1 2 pm.
100	Vickers, Sons, and Co. [L.]	100 0 0	25 25 pm.
25	W. Cumberland I. Co. [L.]	5 0 0	¾ 1 pm.
5	West Swansea Colliery Co. [L.]	10 0 0	—
10	Whitehaven Iron Co. [L.]	10 0 0	—
100	Wigan and Whiston Coal Co. [L.]	70 0 0	10 pm.
100	Wigan Coal and Iron Co.	75 0 0	par 2 pm.

BANKS.			
10	Agns.....	10	0 0 .. 63 $\frac{1}{2}$ 7 $\frac{1}{2}$
25	Alliance	10	0 0 .. 12 $\frac{1}{2}$ 13 $\frac{1}{2}$
40	Bank of Australasia	10	0 0 .. 54 58
10	Bank of New Zealand	10	0 0 .. 19 20
60	British North American	50	0 0 .. 62 64
100	Colonial	30	0 0 .. 58 60
10	Consolidated	4	0 0 .. 2 $\frac{1}{2}$ 2 $\frac{1}{2}$ pm.
20	English Bank of Rio Janeiro	10	0 0 .. 1 $\frac{1}{2}$ 2 $\frac{1}{2}$ pm.
100	London and River Plate	40	0 0 .. 14 16 pm.
50	London and County	20	0 0 .. 58 59
10	London and Provincial	4	10 0 .. par 5 $\frac{1}{2}$ pm.
10	London and San Francisco	10	0 0 .. 13 $\frac{1}{2}$ 14 $\frac{1}{2}$
20	London and Westminster	20	0 0 .. 60 60
100	London Chartered of Australia	20	0 0 .. 64 $\frac{1}{2}$ 68
60	London Joint Stock	15	0 0 .. 47 48 $\frac{1}{2}$
100	National Provincial of England	42	0 0 .. 143 145
20	New South Wales	20	0 0 .. 39 41
25	Oriental Bank Corporation	25	0 0 .. 41 42
100	Provincial of Ireland	25	0 0 .. 94 96
25	Union of Australia	25	0 0 .. 46 47
53	Union of London	15	0 0 .. 41 $\frac{1}{2}$ 45 $\frac{1}{2}$

MISCELLANEOUS.			
10	Anglo-Mexican Mint	10	0 0 .. 16 19
25	Australian Mortgage, Land, and Fin.	5	0 0 .. 1 $\frac{1}{2}$ 2 $\frac{1}{2}$ pm.
10	British and Foreign Tramway	3	0 0 .. 2 2 $\frac{1}{2}$ pm.
25	Canada Company	25	0 0 .. 97 98
25	Copper Miners of Eng. (7 p. c. pref.)	25	0 0 .. 18 $\frac{1}{2}$ 19 $\frac{1}{2}$
5	Credit Foniers of Eng. (7 p. c. pref.)	5	0 0 .. 83 $\frac{1}{2}$ 84 $\frac{1}{2}$
10	Edinburgh Tramway	2	0 0 .. 5 $\frac{1}{2}$ 5 $\frac{1}{2}$ pm.
5	Huntingdon Copper and Sul. Co.	4	0 0 .. 1 $\frac{1}{2}$ 1 $\frac{1}{2}$ pm.
10	Tharsis Sulphur and Copper Co.	10	0 0 .. 30 32 $\frac{1}{2}$

* Limited Liability Companies: † quoted on the Stock Exchange.
‡ have paid dividends.

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